5-B-18

MODEL 424/425
TRANSMISSION LEVEL TEST SET

WAVETEK
SAN DIEGO

9045 BALBOA AVENUE, SAN DIEGO, CALIFORNIA

MODEL 424/425
TRANSMISSION LEVEL TEST SET

WAVETEK®
SAN DIEGO
9045 Balboa Ave., San Diego, CA 92123
P. O. Box 651, San Diego, Calif. 92112
Tel 714/279-2200 TWX 910-335-2007

METRUM
INSTRUMENTATION SERVICES
370 Bernardo Ave. Mountain View, CA 94043
A Business of Alliant Techsystems Inc.

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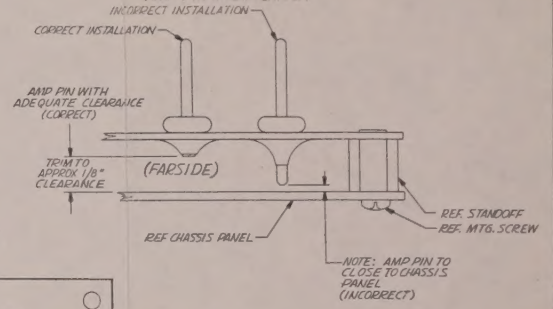
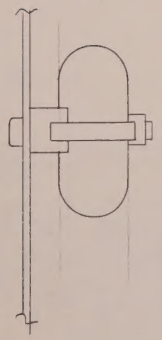
REV	ECN	BY	DATE	APP
A	# 1948	[illegible]	4-5-79	

DETAIL "A"
AMP PIN MODIFICATION



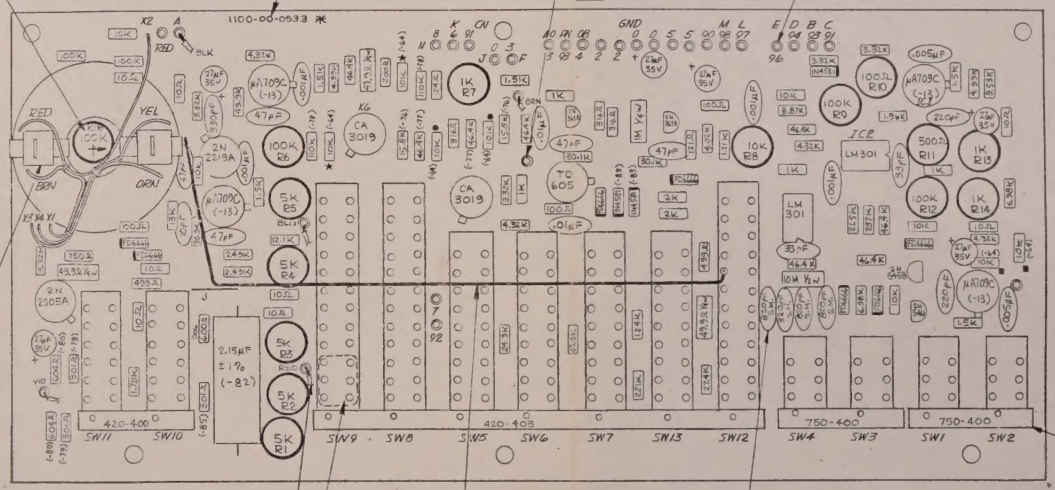
MAKE CERTAIN 100K POT IS CENTERED AND STRAIGHT IN BOARD



RUBBER STAMP ASSY NUMBER WITH LATEST REVISION

DRILL & INSTALL AMP PIN, SOLDER TO ETCH STRAP COMMON BETWEEN 1K, 46.4K & 3.32K. (1)

FOR AMP PIN MODIFICATION SEE DETAIL "A"



MATCHED RESISTORS

301Ω	(-79)	1 PAIR
604Ω	(-80)	1 PAIR
■ 10K	(-64)	1 PAIR
● 10K	(-64)	1 PAIR
★ 10K	(-64)	1 PAIR
15.8K	(-76)	1 PAIR
46.4K	(-77)	1 PAIR
110K	(-78)	1 PAIR
801Ω	(-85)	1 EA

INSTALL YELLOW TAPE (P/N CS.) ON TIPEND WHERE CABLE TIES WILL MAKE POSSIBLE CONTACT. CABLE TIES TO BE WHITE PLASTIC WITH "SLIDE BLOCK LOCK", NOT BLUE OR WHITE TY-WRAP WITH METAL CATCH. THIS IS NECESSARY FOR WITHSTANDING EXTREME TEMPERATURES

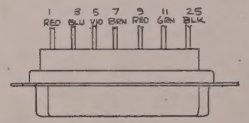
ALL PUSH BUTTON SWITCHES MUST HAVE METAL LATCH BARS, "NOT PLASTIC"

INSTALL SHRINK TUBING ON RED WIRE AMP PIN

CUT SWITCH PINS FLUSH WITH TOP OF SWITCH (6 PINS)

SLEEVED BUS WIRE (#22 AWG)

SOLDER THIS CAPACITOR TO LEAD OF ADJACENT 320pF CAPACITOR



(1) AMP PINS SHOULD BE MECHANICALLY ATTACHED

NOTE: UNLESS OTHERWISE SPECIFIED

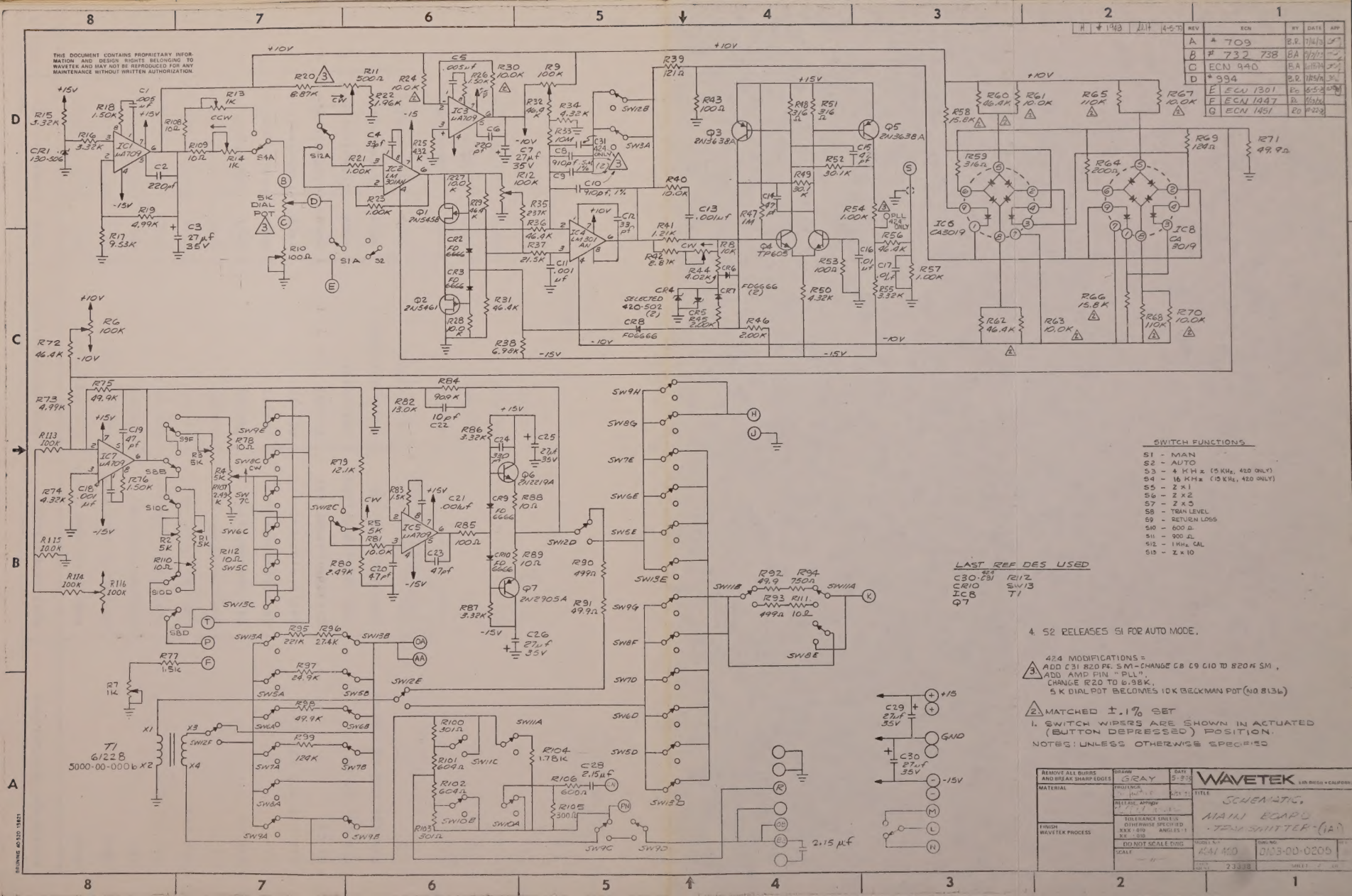
REMOVE ALL BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH WAVETEK PROCESS
DRAWN: T. Robinson DATE: 2/16/76
PROJECTION: T. T. Warner 2/17/76
RELEASE APPROVE: T. T. Warner
TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 .XX ±.030 ANGLES ±1°
DO NOT SCALE DWG
SCALE: 2/1

WAVETEK SAN DIEGO, CALIFORNIA

TITLE: ASSEMBLY MAIN BOARD (TRANSMITTER) (1A1)

MODEL NO.	DWG NO.	REV
424	0101-00-0533	A
CODE IDENT 23338	SHEET 1 OF 1	

0101-00-0533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REV ECN BY DATE APP
A # 709 B.R. 7/16/73
B # 732 738 BA 9/27/73
C ECN 940 B.A. 6/19/74
D * 994 B.R. 12/5/74
E ECN 1301 RD 6-5-75
F ECN 1447 RD 10/1/75
G ECN 1451 RD 11-22-75
SWITCH FUNCTIONS
S1 - MAN
S2 - AUTO
S3 - 4 KHz (5 KHz, 420 ONLY)
S4 - 16 KHz (15 KHz, 420 ONLY)
S5 - 2 X1
S6 - 2 X2
S7 - 2 X5
S8 - TRIM LEVEL
S9 - RETURN LOSS
S10 - 600 Ω
S11 - 900 Ω
S12 - 1 MHz CAL
S13 - 2 X 10
LAST REF DES USED
C30-831 R117
C210 SW13
IC8 T1
Q7
4. S2 RELEASES S1 FOR AUTO MODE.
3. 424 MODIFICATIONS = ADD C31 820 PF. SM-CHANGE C8 C9 C10 TO 820 PF SM, ADD AMP FIN "PLL" CHANGE R20 TO 6.98K, 5K DIAL POT BECOMES 10K BECKMAN POT (NO 8136)
2. MATCHED ±.1% SET
1. SWITCH WIPERS ARE SHOWN IN ACTUATED (BUTTON DEPRESSED) POSITION.
NOTES: UNLESS OTHERWISE SPECIFIED
REMOVE ALL BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH WAVETEK PROCESS
DRAWN GRAY DATE 5-9-73
PROJENGR
RELEASE APPROV
TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ± .010 ANGLES ± 1° XX ± .030
DO NOT SCALE DWG
SCALE
WAVETEK SAN DIEGO, CALIFORNIA
TITLE SCHEMATIC, MAIN ECAPS - TRANSMITTER (1A)
MODEL NO. 424 MD
DWG NO. 0103-00-0005
REV G
SHEET 2 OF 3
T1 6/228 5000-00-0006 X2
2.15 µf

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,MAIN SXNTR	0101-00-0533	WVTK	0101-00-0533	1
NONE	SCHEMATIC,MAIN XMTR	0103-00-0205	WVTK	0103-00-0205	1
C22	CAP,CER,10PF,1KV	DD-100	CRL	1500-01-0011	1
C11 C13 C18 C21	CAP,CER,.001MF,1KV	DD-102	ARCO	1500-01-0211	4
C16 C17	CAP,CER,.01MF,50V	CK-103	CRL	1500-01-0310	2
C2 C6	CAP,CER,220PF,1KV	DD-221	ARCO	1500-02-2111	2
C12 C4	CAP,CER,33PF,1KV	DD-330	ARCO	1500-03-3011	2
C24	CAP,CER,330PF,1KV	DD-331	ARCO	1500-03-3111	1
C14 C15 C19 C20 C23	CAP,CER,47PF,1KV	DD-470	ARCO	1500-04-7011	5
C1 C5	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	2
C10 C31 C8 C9	CAP,MICA,820PF,300V	DM15-821F	ARCO	1500-18-2101	4
C25 C26 C29 C3 C30 C7	CAP,TANT,27MF,35V	196D276X0035FB	SPRAG	1500-72-7602	6
C28	CAP,SEL,2MFW20SK QTY:1:1500-42-0504	420-505-82	WVTK	1509-80-0007	1
130	TRANS MAIN	420-114	WVTK	1700-00-0205	1
121	CONN	DBC-25S	CINCH	2100-02-0002	1
NONE	CONN	60598-8	AMP	2100-05-0017	5
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	31

WAVETEK
PARTS LIST

TITLE
PCA,MAIN XMITTER

ASSEMBLY NO.
1100-00-0533

PAGE: 1

REV
A

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/A
NONE	TIE STRAP	SST-1.5M	PANDT	2800-00-0003	2
NONE	TIE MOUNT	TM-256C	PANDT	2800-00-0005	2
NONE	STANDOFF,SWAGE .125 H,.250 DIA 4-40,.062 MAT'L	9531B-0440-3A	AMTOM	2800-03-0004	2
NONE	TRANSIPAD	10123N	MEIRS	2800-11-0003	4
R10	POT,TRIM,100	91AR100	BECK	4600-01-0103	1
R13 R14 R7	POT,TRIM,1K	91AR1K	BECK	4600-01-0209	3
R8	POT,TRIM,10K	91AR10K	BECK	4600-01-0315	1
R116 R12 R6 R9	POT,TRIM,100K	91AR100K	BECK	4600-01-0402	4
R11	POT,TRIM,500	91AR500	BECK	4600-05-0104	1
R1 R2 R3 R4 R5	POT,TRIM,5K	91AR5K	BECK	4600-05-0205	5
R33	RES,C,1/2W,5%,10M	RC20GF-106	STAPL	4700-25-1005	1
R106	RES,MF,1/8W,.1%,600	RN55D-6000B	IRC	4701-02-6000	1
R43 R53 R85	RES,MF,1/8W,1%,100	RN55D-1000F	IRC	4701-03-1000	3
R21 R23 R54 R57	RES,MF,1/8W,1%,1K	RN55D-1001F	IRC	4701-03-1001	4
R115 R27 R28 R40 R81	RES,MF,1/8W,1%,10K	RN55D-1002F	IRC	4701-03-1002	5
R113 R114	RES,MF,1/8W,1%,100K	RN55D-1003F	IRC	4701-03-1003	2

WAVETEK
PARTS LIST

TITLE
PCA,MAIN XMITTER

ASSEMBLY NO.
1100-00-0553

Part: 2

REV
A

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R108 R109 R110 R111 R112 R78 R88 R89	RES,MF,1/8W,1%,10	RN55D-10R0F	TRW	4701-03-1009	8
R39	RES,MF,1/8W,1%,121	RN55D-1210F	TRW	4701-03-1210	1
R41	RES,MF,1/8W,1%,1.21K	RN55D-1211F	TRW	4701-03-1211	1
R79	RES,MF,1/8W,1%,12.1K	RN55D-1212F	TRW	4701-03-1212	1
R69	RES,MF,1/8W,1%,124	RN55D-1240F	TRW	4701-03-1240	1
R299	RES,MF,1/8W,1%,124K	RN55D-1243F	TRW	4701-03-1243	1
R82	RES,MF,1/8W,1%,13K	RN55D-1302F	TRW	4701-03-1302	1
R18 R26 R76 R77 R83	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	5
R104	RES,MF,1/8W,1%,1.78K	RN55D-1781F	TRW	4701-03-1781	1
R22	RES,MF,1/8W,1%,1.96K	RN55D-1961F	TRW	4701-03-1961	1
R64	RES,MF,1/8W,1%,200	RN55D-2000F	TRW	4701-03-2000	1
R45 R46	RES,MF,1/8W,1%,2K	RN55D-2001F	TRW	4701-03-2001	2
R37	RES,MF,1/8W,1%,21.5K	RN55D-2152F	TRW	4701-03-2152	1
R95	RES,MF,1/8W,1%,221K	RN55D-2213F	TRW	4701-03-2213	1
R35	RES,MF,1/8W,1%,237K	RN55D-2373F	TRW	4701-03-2373	1
R107 R80	RES,MF,1/8W,1%,2.49K	RN55D-2491F	TRW	4701-03-2491	2
R97	RES,MF,1/8W,1%,24.9K	RN55D-2492F	TRW	4701-03-2492	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R96	RES,MF,1/8W,1%,27.4K	RN55D-2742F	TRW	4701-03-2742	1
R49 R52	RES,MF,1/8W,1%,30.1K	RN55D-3012F	TRW	4701-03-3012	2
R48 R51 R59	RES,MF,1/8W,1%,316	RN55D-3160F	TRW	4701-03-3160	3
R15 R16 R55 R86 R87	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	5
R44	RES,MF,1/8W,1%,4.02K	RN55D-4021F	TRW	4701-03-4021	1
R25 R34 R50 R74	RES,MF,1/8W,1%,4.32K	RN55D-4321F	TRW	4701-03-4321	4
R29 R31 R32 R36 R56 R72	RES,MF,1/8W,1%,46.4K	RN55D-4642F	TRW	4701-03-4642	6
R90 R93	RES,MF,1/8,1%,499	RN55D-4990F	TRW	4701-03-4990	2
R19 R73	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	2
R75 R98	RES,MF,1/8W,1%,49.9K	RN55D-4992F	TRW	4701-03-4992	2
R20 R38	RES,MF,1/8W,1%,6.98K	RN55D-6981F	TRW	4701-03-6981	2
R94	RES,MF,1/8W,1%,750	RN55D-7500F	TRW	4701-03-7500	1
R42	RES,MF,1/8W,1%,8.87K	RN55D-8871F	TRW	4701-03-8871	1
R84	RES,MF,1/8W,1%,90.9K	RN55D-9092F	TRW	4701-03-9092	1
R17	RES,MF,1/8W,1%,9.53K	RN55D-9531F	TRW	4701-03-9531	1
R47	RES,MF,1/4W,1%,1M	RN60D-1004F	TRW	4701-13-1004	1
R71 R91 R92	RES,MF,1/4W,1%,49.9	RN60D-49R9F	TRW	4701-13-4992	3

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	RES,SET,2-301,1/8W QTY:2:4701-03-3010	420-505-79A	WVTK	4789-00-0002	1
301	RES,SEL,301,1/8W QTY:1:4701-03-3010	420-505-85A	WVTK	4789-00-0003	1
NONE	RES,SET,2-604,1/8W QTY:2:4701-03-6040	420-505-80A	WVTK	4789-00-0004	1
NONE	RES,SET,2-10K,1/8W QTY:2:4701-03-1002	142-501-64A	WVTK	4789-00-0019	3
NONE	RES,SET,2-15.8K,1/8W QTY:2:4701-03-1582	420-505-76A	WVTK	4789-00-0022	1
NONE	RES,SET,2-46.4K,1/8W QTY:2:4701-03-4642	420-505-77A	WVTK	4789-00-0026	1
NONE	RES,SET,2-110K,1/8W QTY:2:4701-03-1103	420-505-78A	WVTK	4789-00-0028	1
CR1	DIODE,ZENER 6.2V	1N823A	NPC	4801-01-0823	1
CR10 CR2 CR3 CR6 CR7 CR8 CR9	DIODE	FD-6666	FAIR	4807-02-6666	7
NONE	DIODE,M/PR,1N4581 QTY:2:4801-01-4581	420-505-83	WVTK	4898-00-0006	2
Q6	TRANS	2N2219A	NSC	4901-02-2191	1
Q7	TRANS	2N2905A	NSC	4901-02-9051	1
Q3 Q5	TRANS	2N3638A	CAHTR	4901-03-6381	2

FERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PI
	TRANS	2N5458	MOT	4901-05-4580	1
	TRANS	2N5461	INTSL	4901-05-4610	1
	TRANS	TP-605	TPS	4902-00-6050	1
7	SWITCH ASSY PB	420-400	WVTK	5103-00-0012	1
8	SWITCH ASSY PB	420-403	WVTK	5103-00-0015	1
NE	SWITCH ASSY PB	750-400	WVTK	5103-00-0019	2
NE	BUTTON	J-52305-BLACK	CRL	5103-04-0003	13
	TRANSFORMER	420-509	WVTK	5600-00-0006	1
2 IC4	IC	LM 301AN	NSC	7000-03-0100	2
6 IC8	IC	CA-3019	FAIR	7000-30-1900	2
1 IC3 IC5 IC7	IC,CLASS I,MA-709 QTY:1:7000-07-0900	130-501-13	WVTK	7200-00-0005	4

WAVETEK
PARTS LIST

TITLE
PCA,MAIN XMITTER

ASSEMBLY NO.
1100-00-0533

REV
A

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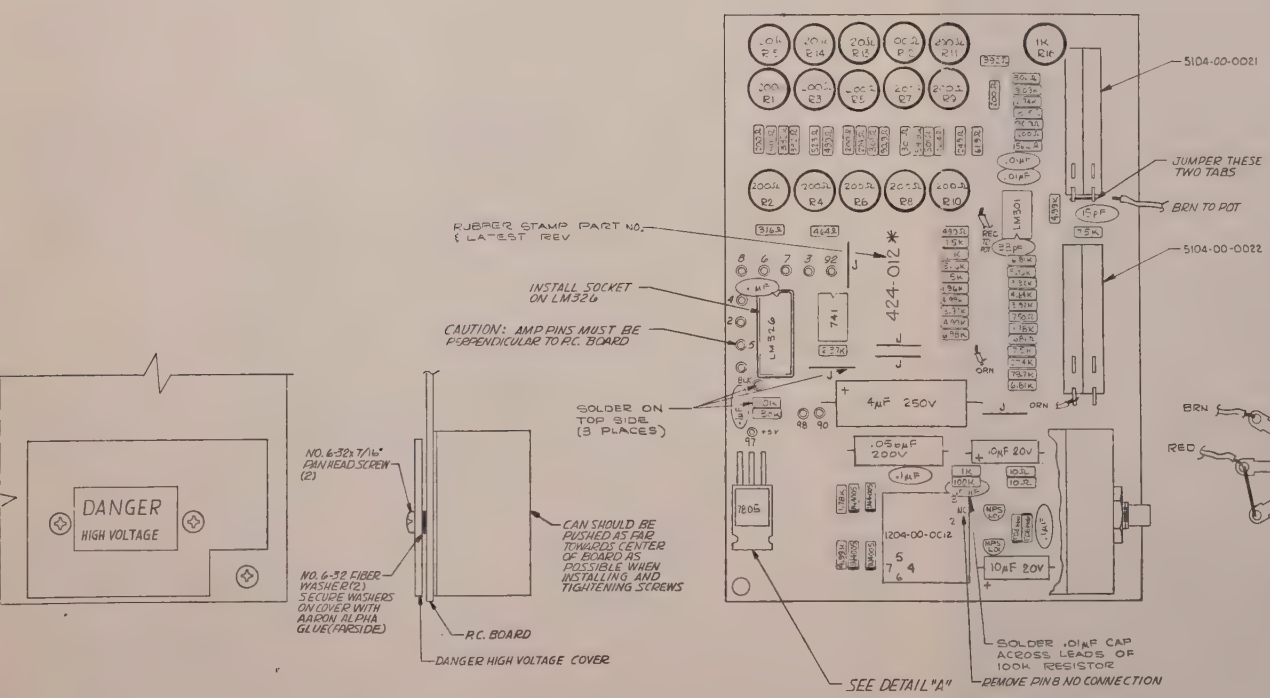
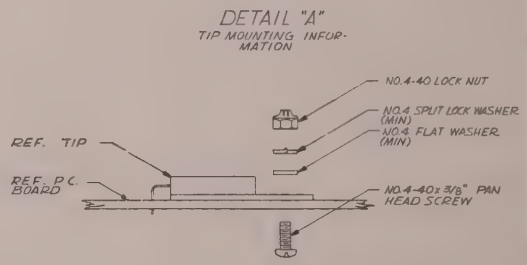
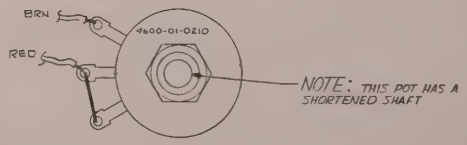

DANGER
HIGH VOLTAGE
NO. 6-32 x 7/16" PAN HEAD SCREW (2)
NO. 6-32 FIBER WASHER (2). SECURE WASHERS ON COVER WITH AARON ALPHA GLUE (FARSIDE)
P.C. BOARD
DANGER HIGH VOLTAGE COVER
CAN SHOULD BE PUSHED AS FAR TOWARDS CENTER OF BOARD AS POSSIBLE WHEN INSTALLING AND TIGHTENING SCREWS
RUBBER STAMP PART NO. & LATEST REV
INSTALL SOCKET ON LM326
CAUTION: AMP PINS MUST BE PERPENDICULAR TO P.C. BOARD
SOLDER ON TOP SIDE (3 PLACES)
424-012
5104-00-0021
JUMPER THESE TWO TABS
BRN TO POT
5104-00-0022
SEE DETAIL "A"
SOLDER .01MF CAP ACROSS LEADS OF 100K RESISTOR
REMOVE PIN 8 NO CONNECTION





NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND SHARP EDGES	DRAWN B REDMAN DATE	WAVETEK SAN DIEGO, CALIFORNIA	
MATERIAL —	PROJECTION —	TITLE ASSEMBLY, ATTENUATOR/VOLTAGE REGULATOR BOARD (TRANSMITTER) (1A2)	
FINISH WAVETEK PROCESS —	RELEASE APPROVAL T.C. Warner	TOLERANCE UNLESS OTHERWISE SPECIFIED .XX ± .010 ANGLES ± 1° .XX ± .030	
	DO NOT SCALE DWG	MODEL NO 424	DWG NO 0101-00-0532 REV B
	SCALE 2/1	CODE IDENT NO 23338	SHEET 1 OF 1

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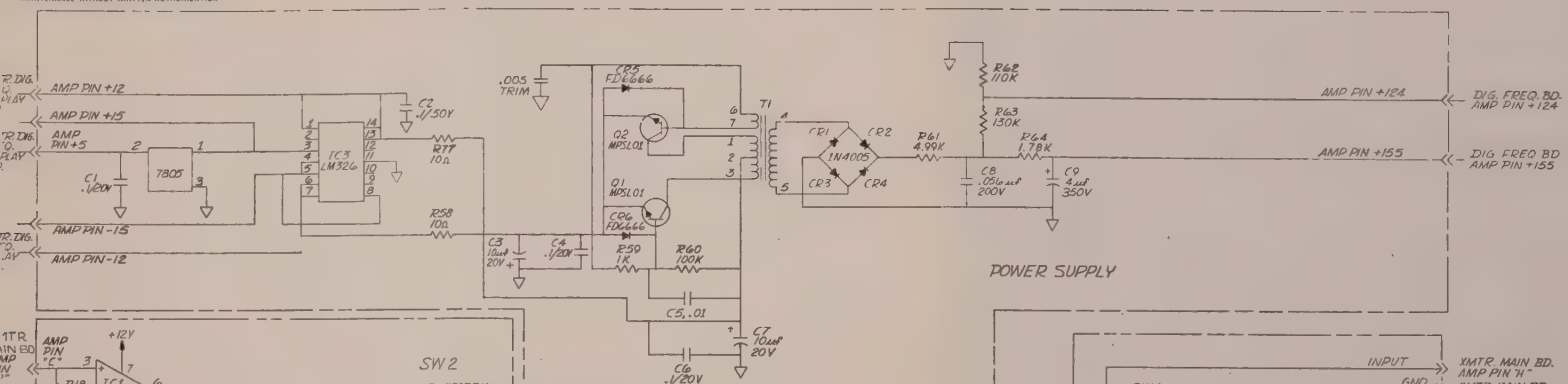
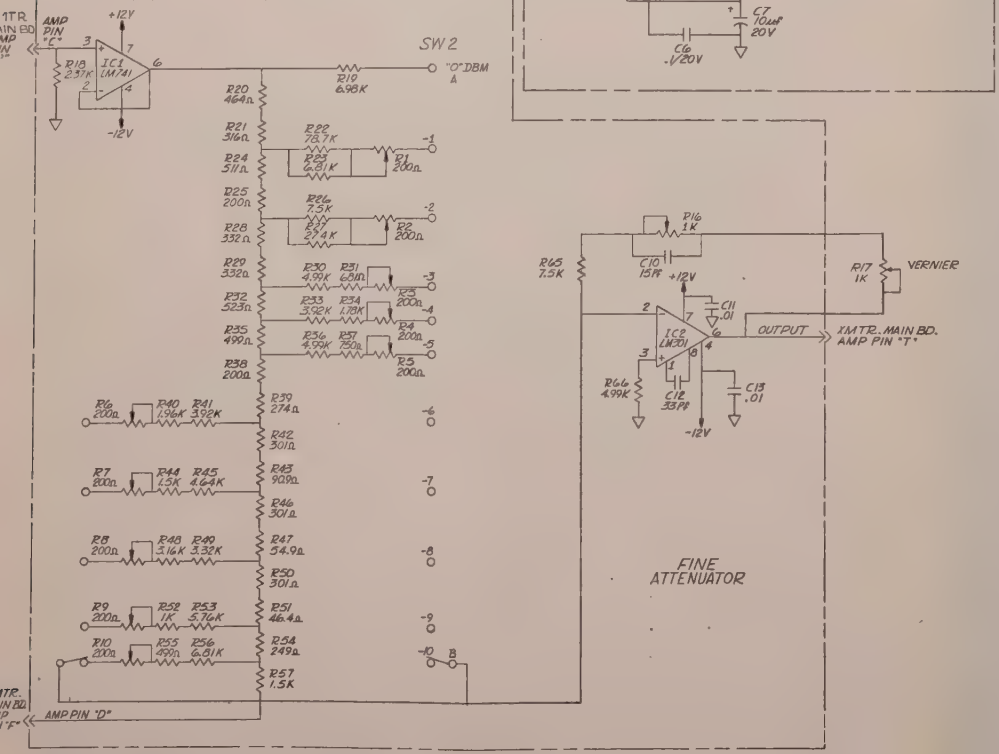
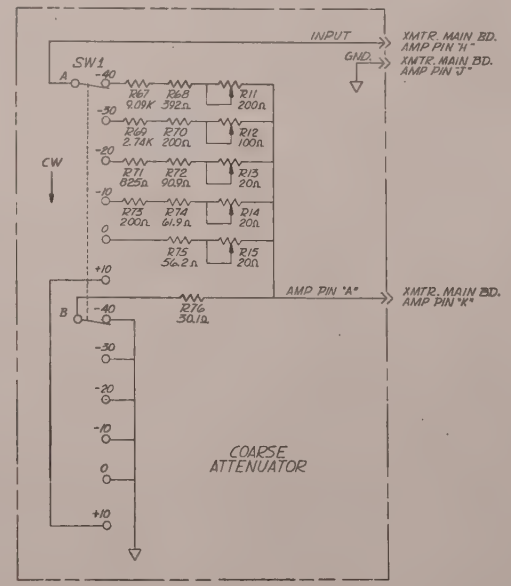






NOTE UNLESS OTHERWISE SPECIFIED

LAST REFERENCE DESIGNATORS USED: IC3, R77, C13, CR6

REMOVE ALL BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH WAVETEK PROCESS
DRAWN D. CRIDER
DESIGNED K. T. Warren
RELEASE APPROVED K. T. Warren
TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ± .010 ANGLES ± 1 XX ± .030
DO NOT SCALE DWG
SCALE

WAVETEK SAN DIEGO, CALIFORNIA

TITLE SCHEMATIC DIAGRAM ATTENUATOR/HIGH VOLTAGE BOARD TRANSMITTER (1A2)

MODEL NO. 1-7

DWG NO. 1003-301-0532

REV

CAGE NO. 23338

SHEET 1 of 1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,HV-ATTEN	0101-00-0532	WVTK	0101-00-0532	1
NONE	SCHEMATIC,HV-ATTEN	0103-00-0532	WVTK	0103-00-0532	1
T1	TRANSFORMER	5600-00-0023	WVTK	1204-00-0012	1
3	H.V.SHIELD	424-307	WVTK	1400-00-6510	1
4	COVER H.V.	425-306	WVTK	1400-00-6523	1
C11 C13 C5	CAP,CER,.01MF,50V	CK-103	CRL	1500-01-0310	3
C1 C2 C4 C6	CAP,CER,.1MF,20V	UK20-104	CRL	1500-01-0413	4
C10	CAP,CER,15PF,1KV	DD-150	ARCO	1500-01-5011	1
C12	CAP,CER,33PF,1KV	DD-330	ARCO	1500-03-3011	1
C9	CAP,ELECT,4MF,350V	TVA-1601	SPRAG	1500-30-4005	1
C8	POLY,.056MF,200V	192P56392	SPRAG	1500-45-6304	1
C3 C7	CAP,TANT,10MF,20V	150D106X9020B2	SPRAG	1500-71-0601	2
1	H.V. ATTN P/C	424-512	WVTK	1700-00-0532	1
32	SKT,IC,14PIN	14-DIP	[illegible]	2100-03-0011	1
NONE	PIN,MALE	61182-2	[illegible]	2100-05-0020	13
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	2
105	LABLE,CAUTION	B500-8513472-1	BRADY	2800-29-0001	1
R12	POT,TRIM,100	91AR100	BECK	4600-01-0103	1

WAVETEK PARTS LIST

TITLE
PCA,HV-ATTN

ASSEMBLY NO.
1100-00-0532

REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R16	POT,TRIM,1K	91AR1K	BECK	4600-01-0209	1
R17	POT 1K	424-500	WVTK	4600-01-0210	1
R13 R14 R15	POT,TRIM,20	91AR20	BECK	4600-02-0000	3
R1 R10 R11 R2 R3 R4 R5 R6 R7 R8 R9	POT,TRIM,200	91AR200	BECK	4600-02-0101	11
R52 R59	RES,MF,1/8W,1%,1K	RN55D-1001F	TRW	4701-03-1001	2
R60	RES,MF,1/8W,1%,100K	RN55D-1003F	TRW	4701-03-1003	1
R58 R77	RES,MF,1/8W,1%,10	RN55D-10R0F	TRW	4701-03-1009	2
R62	RES,MF,1/8W,1%,110K	RN55D-1103F	TRW	4701-03-1103	1
R63	RES,MF,1/8W,1%,130K	RN55D-1303F	TRW	4701-03-1303	1
R44 R57	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	2
R34 R64	RES,MF,1/8W,1%,1.78K	RN55D-1781F	TRW	4701-03-1781	2
R40	RES,MF,1/8W,1%,1.96K	RN55D-1961F	TRW	4701-03-1961	1
R25 R38 R70 R73	RES,MF,1/8W,1%,200	RN55D-2000F	TRW	4701-03-2000	4
R18	RES,MF,1/8W,1%,2.37K	RN55D-2371F	TRW	4701-03-2371	1
R54	RES,MF,1/8W,1%,249	RN55D-2490F	TRW	4701-03-2490	1
R39	RES,MF,1/8W,1%,274	RN55D-2740F	TRW	4701-03-2740	1
R69	RES,MF,1/8W,1%,2.74K	RN55D-2741F	TRW	4701-03-2741	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R27	RES,MF,1/8W,1%,27.4K	RN55D-2742F	TRW	4701-03-2742	1
R42 R46 R50	RES,MF,1/8W,1%,301	RN55D-3010F	TRW	4701-03-3010	3
R76	RES,MF,1/8W,1%,30.1	RN55D-30R1F	TRW	4701-03-3019	1
R21	RES,MF,1/8W,1%,316	RN55D-3160F	TRW	4701-03-3160	1
R45	RES,MF,1/8W,1%,3.16K	RN55D-3161F	TRW	4701-03-3161	1
R28 R29	RES,MF,1/8W,1%,332	RN55D-3320F	TRW	4701-03-3320	2
R49	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	1
R65	RES,MF,1/8W,1%,392	RN55D-3920F	TRW	4701-03-3920	1
R33 R41	RES,MF,1/8W,1%,3.92K	RN55D-3921F	TRW	4701-03-3921	2
R20	RES,MF,1/8W,1%,464	RN55D-4640F	TRW	4701-03-4640	1
R45	RES,MF,1/8W,1%,4.64K	RN55D-4641F	TRW	4701-03-4641	1
R51	RES,MF,1.8W,1%,46.4	RN55D-46R4F	TRW	4701-03-4649	1
R35 R55	RES,MF,1/8,1%,499	RN55D-4990F	TRW	4701-03-4990	2
R30 R36 R61 R66	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	4
R24	RES,MF,1/8W,1%,511	RN55D-5110F	TRW	4701-03-5110	1
R32	RES,MF,1/8W,1%,523	RN55D-5230F	TRW	4701-03-5230	1
R47	RES,MF,1/8W,1%,54.9	RN55D-54R9F	TRW	4701-03-5499	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R75	RES,MF,1/8W,1%,56.2	RN55D-56R2F	TRW	4701-03-5629	1
R53	RES,MF,1/8W,1%,5.76K	RN55D-5761F	TRW	4701-03-5761	1
R74	RES,MF,1/8W,1%,61.9	RN55D-61R9F	TRW	4701-03-6199	1
R31	RES,MF,1/8W,1%,681	RN55D-6810F	TRW	4701-03-6810	1
R23 R56	RES,MF,1/8W,1%,6.81K	RN55D-6811F	TRW	4701-03-6811	2
R19	RES,MF,1/8W,1%,6.98K	RN55D-6981F	TRW	4701-03-6981	1
R37	RES,MF,1/8W,1%,750	RN55D-7500F	TRW	4701-03-7500	1
R26 R65	RES,MF,1/8W,1%,7.5K	RN55D-7501F	TRW	4701-03-7501	2
R22	RES,MF,1/8W,1%,78.7K	RN55D-7872F	TRW	4701-03-7872	1
R71	RES,MF,1/8W,1%,825	RN55D-8250F	TRW	4701-03-8250	1
R67	RES,MF,1/8W,1%,9.09K	RN55D-9091F	TRW	4701-03-9091	1
R43 R72	RES,MF,1/8W,1%,90.9	RN55D-90R9F	TRW	4701-03-9099	2
CR1 CR2 CR3 CR4	DIODE	1N4005	MOT	4806-01-4005	4
CR5 CR6	DIODE	FD-6666	FAIR	4807-02-6666	2
Q1 Q2	TRANS	MPS-L01	FAIR	4902-00-0010	2
6	SWITCH ASSY ROTARY	420-406	WAVE	5104-00-0021	1
7	SWITCH ASSY ROTARY	420-407	WAVE	5104-00-0022	1

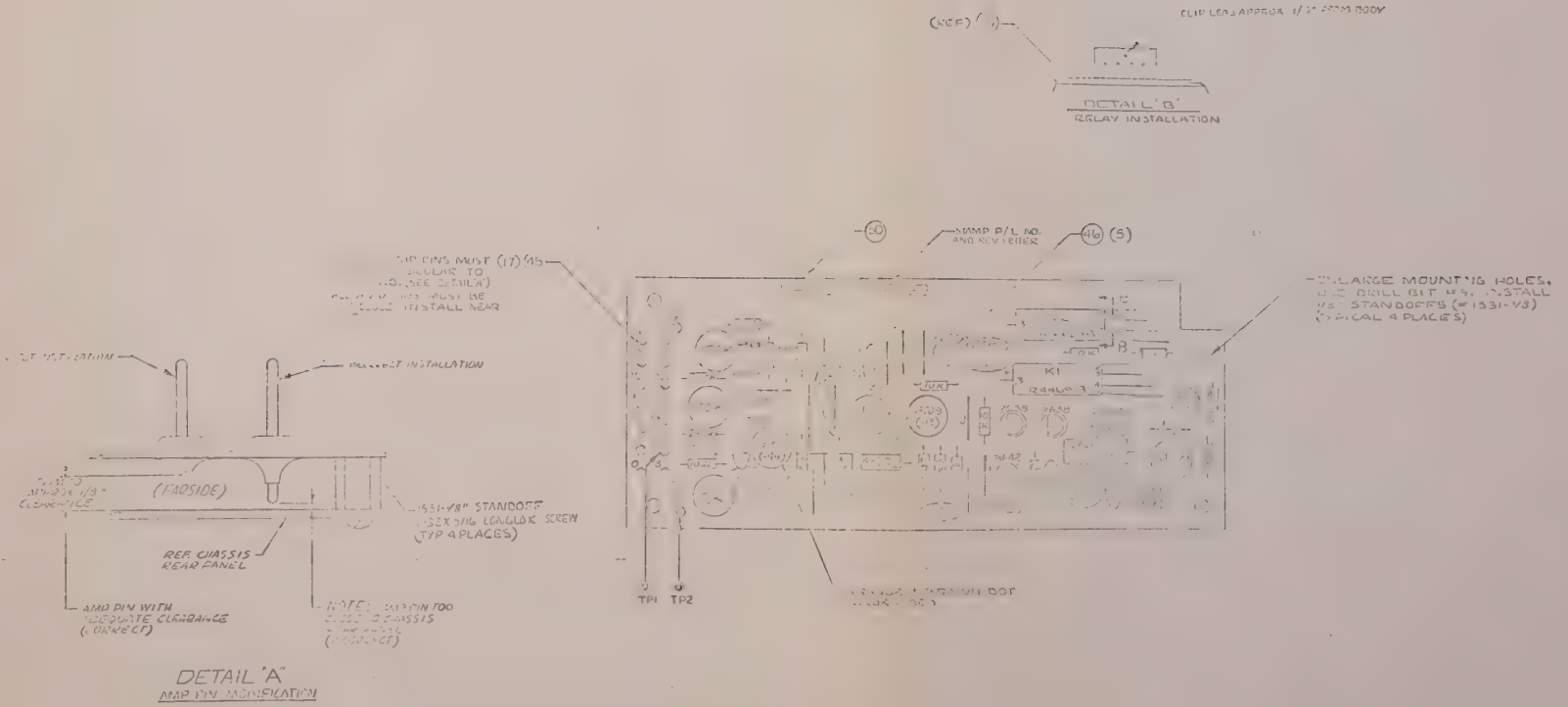
REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
U2	IC	LM 301AN	NSC	7000-03-0100	1
U3	IC	LM326	NSC	7000-03-2600	1
U1	IC	MA-741	FAIR	7000-07-4100	1
U1	VOLTAGE REGULATOR	7805393	FAIR	8000-78-0500	1

WAVETEK
PARTS LIST

TITLE
PCA,HV-ATTN

ASSEMBLY NO.
1100-00-0532

REV


(REF)
CLIP LEAD APPROX 1/2" FROM BODY
DETAIL 'B'
RELAY INSTALLATION
(50)
JUMP P/L NO. AND REVISION
(46) (5)
MAP PINS MUST (17) BE LOCATED TO I.D. (SEE DETAIL A) AND MUST BE INSTALLED NEAR
LARGE MOUNTING HOLES. USE DRILL BIT #9. INSTALL #8 STANDOFFS (#1931-V3) (TYPICAL 4 PLACES)
K1
R446
TP1
TP2
(FAR SIDE)
1931-V8" STANDOFF (#8 X 5/16 LONGLOK SCREW (TYP 4 PLACES)
REF CHASSIS REAR PANEL
AMP PIN WITH ADEQUATE CLEARANCE (CORRECT)
(INCORRECT)
DETAIL "A"
AMP PIN IDENTIFICATION

ASSEMBLY
(AS) TRANSMITTER

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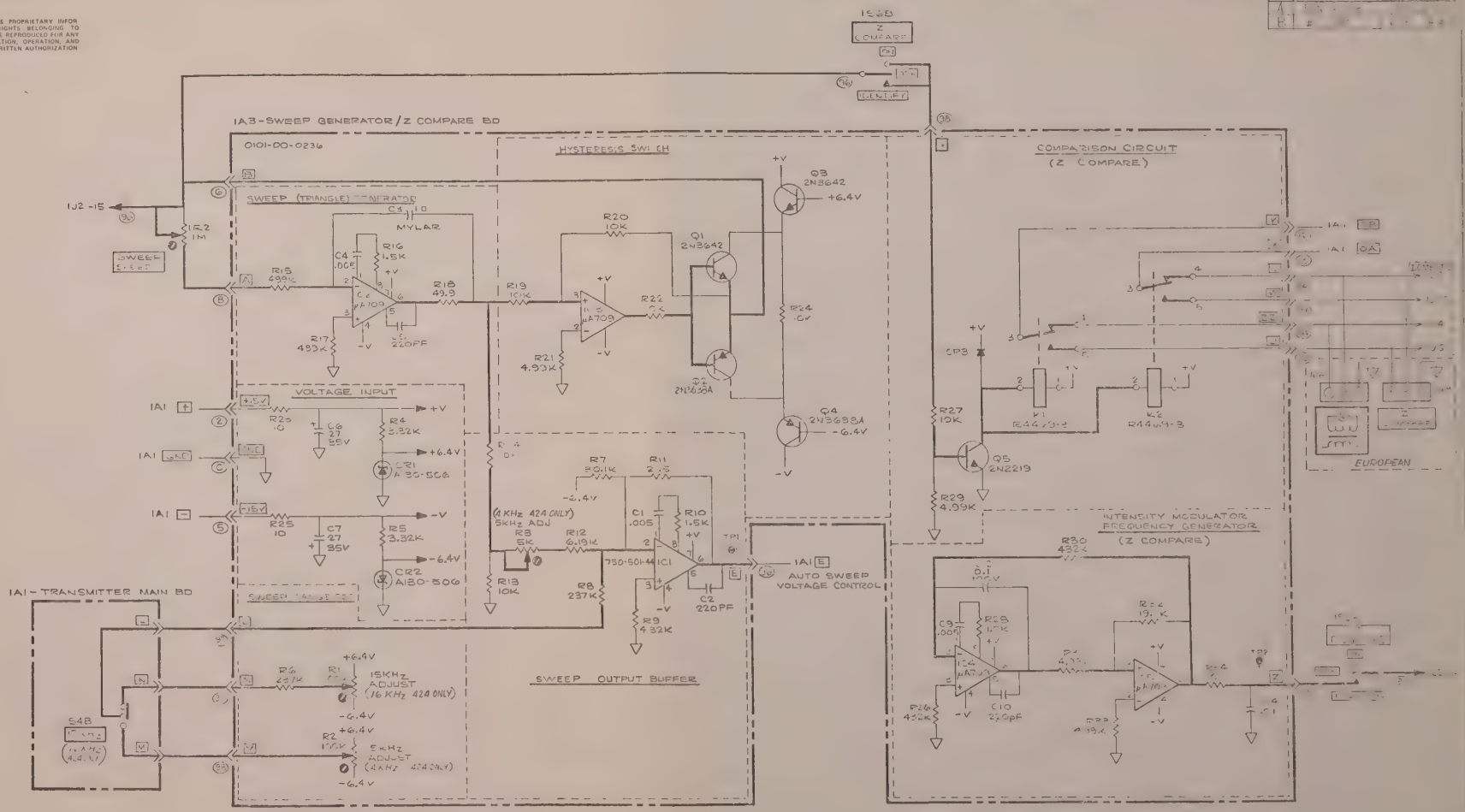

3. PUSH BUTTON SWITCHES ARE SHOWN IN THE UNACTUATED (BUTTON OUT) POSITION.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS (µF).
1. ALL RESISTOR VALUES ARE IN OHMS (Ω).

NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES — MATERIAL — DRAWN S. NEUMAN

WAVETEK

TITLE SCHEMATIC DIAGRAM SWEEP GEN/Z COMPARE 1A3 TRANSMITTER

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,SWEEP	0101-00-0536	WVTK	0101-00-0536	1
NONE	SCHEMATIC,SWEEP	0103-00-0236	WVTK	0103-00-0236	1
C14	CAP,CER,.01MF,50V	CK-103	CRL	1500-01-0310	1
C10 C2 C5	CAP,CER,220PF,1KV	DD-221	ARCO	1500-02-2111	3
C1 C4 C9	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	3
C12	CAP,POLYC,.1MF,100V	PA2B104F	ELCUB	1500-41-0404	1
C3	CAP,POLYC,1MF,100V	210-B1C-105F	IMB	1500-41-0504	1
C6 C7	CAP,TANT,27MF,35V	196D276X0035FB	SPRAG	1500-72-7602	2
50	SWEEP GEN	420-113	WVTK	1700-00-0204	1
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	17
NONE	STANDOFF,SWAGE .125 H,.250 HEX 6-32,.031 MAT'L	B1531A-1/8/11	USECO	2800-02-0019	4
NONE	TRANSIPAD	10123N	METRS	2800-11-0003	5
K1 K2	RELAY,REED,SPST	R4469-3	ETROL	4500-00-0010	2
R1 R2	POT,TRIM,100K	91AR100K	BECK	4600-01-0402	2
R3	POT,TRIM,5K	91AR5K	BECK	4600-05-0205	1
R13 R14 R19 R20 R22 R24 R27 R34	RES,MF,1/8W,1%,10K	RN55D-1002F	TRW	4701-03-1002	8

WAVETEK
PARTS LIST

TITLE
PCA,SWEEP

ASSEMBLY NO.
1100-00-0536

PAGE: 1

REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R23 R25	RES,MF,1/8W,1%,10	RN55D-10R0F	TRW	4701-03-1009	2
R10 R16 R28	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	3
R32	RES,MF,1/8W,1%,19.1K	RN55D-1912F	TRW	4701-03-1912	1
R11	RES,MF,1/8W,1%,21.5K	RN55D-2152F	TRW	4701-03-2152	1
R6 R8	RES,MF,1/8W,1%,237K	RN55D-2373F	TRW	4701-03-2373	2
R7	RES,MF,1/8W,1%,30.1K	RN55D-3012F	TRW	4701-03-3012	1
R4 R5	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	2
R9	RES,MF,1/8W,1%,4.32K	RN55D-4321F	TRW	4701-03-4321	1
R21 R29 R31 R33	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	4
R12	RES,MF,1/8W,1%,6.19K	RN55D-6191F	TRW	4701-03-6191	1
R26 R30	RES,MF,1/4W,1%,432K	RN60D-4323F	TRW	4701-13-4323	2
R15 R17	RES,MF,1/4W,1%,499K	RN60D-4993F	TRW	4701-13-4993	2
R18	RES,MF,1/4W,1%,49.9	RN60D-49R9F	TRW	4701-13-4999	1
CR1 CR2	DIODE	1N4581	MICRO	4801-01-4581	2
CR3	DIODE	FD-6666	FAIR	4807-02-6666	1
Q5	TRANS	2N2219A	NSC	4901-02-2191	1
Q2 Q4	TRANS	2N3638A	CAMTR	4901-05-6381	2

EFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
1 Q3	TRANS	2N3642	FAIR	4901-03-6420	2
2 IC3 IC4 IC5	IC,CLASS I,MA-709 QTY:1:7000-07-0900	130-501-13	AVIK	7200-00-0005	4
C1	IC,CL I SPEC,MA-709 QTY:1:7200-00-0005	750-501-44	AVIK	7200-00-0007	1

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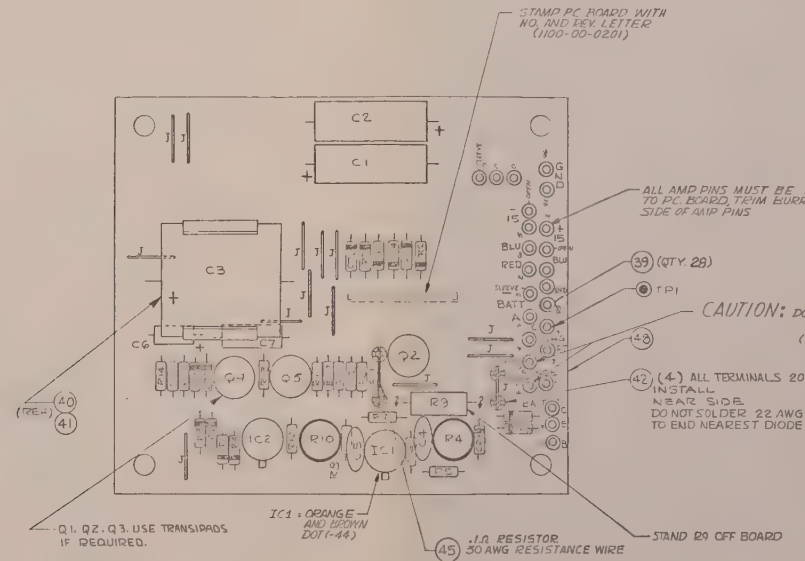

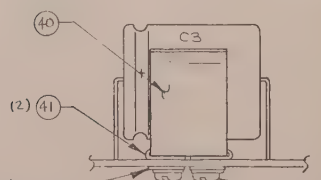

#6 LOCK WASHER (SPLIT) (4 REQD)
NOTE: USE TWO UNDER SCREW HEAD, TO INSURE THAT SCREWS DO NOT CONTACT CAPACITOR.

C3 MTG DETAIL

#6-32 x 5/16 SCREW (2 REQD)

ALTERNATIVE METHOD FOR MOUNTING BRACKET, IS POP RIVETING

NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN M. BECHTOLD	DATE 5/2/7	WAVETEK SAN DIEGO, CALIFORNIA
MATERIAL	ENGINEER		TITLE ASSEMBLY BATTERY CHARGER BD (1A4) TRANSMITTER
FINISH WAVETEK PROCESS	RELEASE APPROVAL		
	TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ± .010 ANGLES ± 1°		
	DO NOT SCALE DWG	MODEL NO 424/420	DWG NO 0101-00-0201 REV M
	SCALE 2:1	CAGE IDENT 23338	SHEET 1 OF 2

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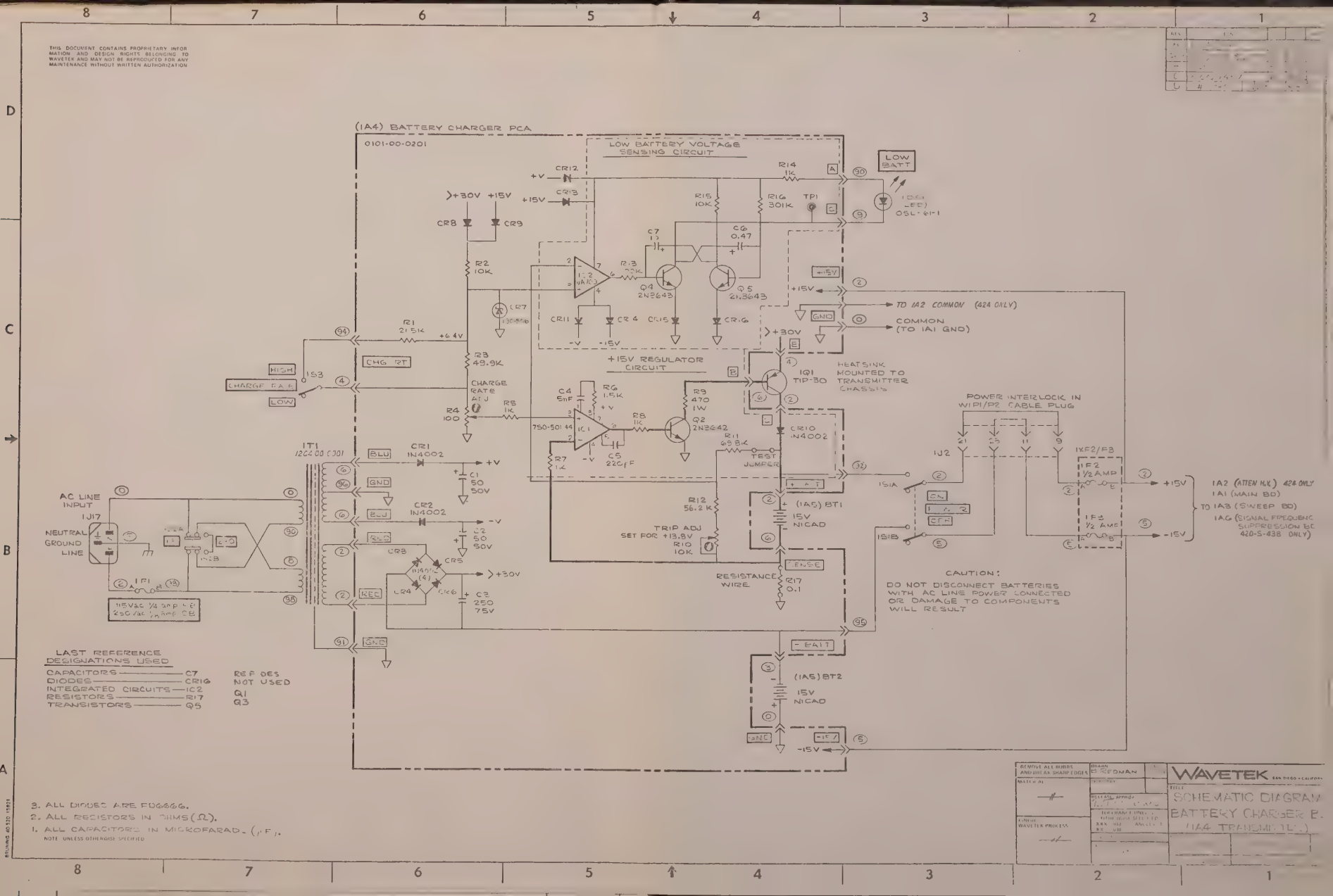

LAST REFERENCE DESIGNATIONS USED

CAPACITORS	C7	REF DES NOT USED
DIODES	CR16	Q1
INTEGRATED CIRCUITS	IC2	Q3
RESISTORS	R17	
TRANSISTORS	Q5	

3. ALL DIODES ARE FDG666.
2. ALL RESISTORS IN OHMS (Ω).
1. ALL CAPACITORS IN MICROFARADS (μF).
NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES

DRAWN S. REDMAN

WAVETEK SAN DIEGO, CALIFORNIA

TITLE SCHEMATIC DIAGRAM BATTERY CHARGER PC. (1A4 TRANSMITTER)

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,BATT CHARG	0101-00-0201	WVTK	0101-00-0201	1
NONE	SCHEMATIC,BATT CHARG	0103-00-0201	WVTK	0103-00-0201	1
C5	CAP,CER,220PF,1KV	DD-221	ARCO	1500-02-2111	1
C4	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	1
C3	CAP,ELECT,250MF,75V	39D257G075JE4	SPRAG	1500-32-5103	1
C1 C2	CAP,ELECT,50MF,50V	500D506G050DD7	SPRAG	1500-35-0003	2
C7	CAP,TANT,10MF,20V	150D106X9020B2	SPRAG	1500-71-0601	1
C6	CAP,TANT,.47MF,50V	150D474X9050B2	SPRAG	1500-74-7403	1
48	BATT CHGR	420-110	WVTK	1700-00-0201	1
NONE	TERM	2000B1	USECO	2100-05-0009	4
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	25
40	CLAMP	4511-100-68-2C	SESTM	2800-00-0008	1
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	2
NONE	TRANSIPAD	10123N	METRS	2800-11-0003	3
R4	POT,TRIM,100	91AR100	BECK	4600-01-0103	1
R10	POT,TRIM,10K	91AR10K	BECK	4600-01-0315	1
R9	RES,C,1W,5%,470	RC32GF-471	STKPL	4700-35-4700	1
R14 R5 R7 R8	RES,MF,1/8W,1%,1K	RN55D-1001F	TRW	4701-03-1001	4

WAVETEK
PARTS LIST

TITLE
BATT CHGR-XMITTR

ASSEMBLY NO.
1100-00-0201

REV
K

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R15 R2	RES,MF,1/8W,1%,10K	RN55D-1002F	TRW	4701-03-1002	2
R13	RES,MF,1/8W,1%,100K	RN55D-1003F	TRW	4701-03-1003	1
R6	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	1
R1	RES,MF,1/8W,1%,21.5K	RN55D-2152F	TRW	4701-03-2152	1
R16	RES,MF,1/8W,1%,301K	RN55D-3013F	TRW	4701-03-3013	1
R3	RES,MF,1/8W,1%,49.9K	RN55D-4992F	TRW	4701-03-4992	1
R12	RES,MF,1/8W,1%,56.2K	RN55D-5622F	TRW	4701-03-5622	1
R11	RES,MF,1/8W,1%,69.8K	RN55D-6982F	TRW	4701-03-6982	1
CR7	DIODE,ZENER 6.2V	1N823A	NPC	4801-01-0823	1
CR1 CR10 CR2 CR3 CR4 CR5 CR6	DIODE	SCE-1	SEMT	4801-02-0001	7
CR11 CR12 CR13 CR14 CR15 CR16 CR8 CR9	DIODE	FD-6666	FAIR	4807-02-6666	8
Q2	TRANS	2N3642	FAIR	4901-03-6420	1
Q4 Q5	TRANS	2N3643	FAIR	4901-03-6430	2
R17	RESISTANCE WIRE	30AWG	MANG	6009-90-0001	1
IC2	IC,CLASS I,MA-709 QTY:1:7000-07-0900	130-501-13	WVTK	7200-00-0005	1
IC1	IC,CL I SPEC,MA-709	750-501-44	WVTK	7200-00-0007	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
	QTY:1:7200-00-0005				

WAVETEK PARTS LIST	TITLE BATT CHGR-XMITTR	ASSEMBLY NO. 1100-00-0201 PAGE: 3	REV K

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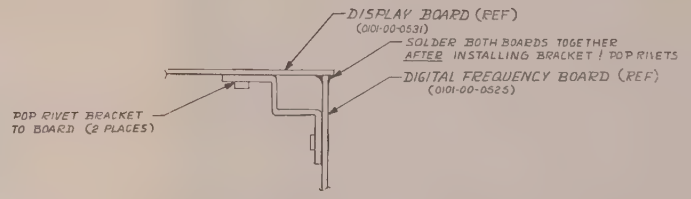
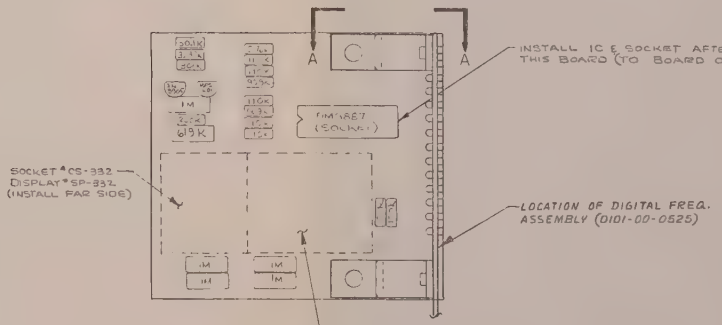


DETAIL "A"
INSTALLATION OF DISPLAY BD. ASSY
TO DIGITAL FREQ. DISPLAY ASSY.



CAUTION: EXCERCISE CARE WHEN INSTALLING DISPLAYS, THE PINS ARE FRAGILE AND BEND UNDER EASILY.

NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN	DATE
MATERIAL	ENGINEER	
FINISH: WAVETEK PROCESS	MECHANICAL APPROVAL	
	DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	
	XXX ±.010 ANGLES ±	
	DO NOT SCALE DWG	
	SCALE	

WAVETEK SAN DIEGO, CALIFORNIA

TITLE: ASSEMBLY, DISPLAY BOARD (TRANSMITTER) (1A6)

MFG'S NO. 424	DWG NO. 0101-00-0531	REV. H
23338	SHEET	

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,DISPLAY	0101-00-0531	WVTK	0101-00-0531	1
NONE	SCHEMATIC,DISPLAY	0103-00-0525	WVTK	0103-00-0525	1
1	PCB,DISPLAY	424-511	WVTK	1700-00-0531	1
24	SKT,DISPLAY	CS332	BECK	2100-03-0019	1
25	SKT DISPLAY	CS333	BECK	2100-03-0020	1
7	SKT,IC,18 PIN	18-DIP	CINCH	2100-03-0023	1
R314 R33 R36 R38 R39	RES,MF,1/8W,1%,110K	RN55D-1103F	TRW	4701-03-1103	5
R24 R25	RES,MF,1/8W,1%,150K	RN55D-1503F	TRW	4701-03-1503	2
R22	RES,MF,1/8W,1%,221K	RN55D-2213F	TRW	4701-03-2213	1
R21	RES,MF,1/8W,1%,30.1K	RN55D-3012F	TRW	4701-03-3012	1
R28	RES,MF,1/8W,1%,301K	RN55D-3013F	TRW	4701-03-3013	1
R27	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	1
R20	RES,MF,1/8W,1%,5.76K	RN55D-5761F	TRW	4701-03-5761	1
R35 R37	RES,MF,1/8W,1%,90.9K	RN55D-9092F	TRW	4701-03-9092	2
R26 R29 R30 R31 R32	RES,MF,1/4W,1%,1M	RN60D-1004F	TRW	4701-13-1004	5
R23	RES,MF,1/4W,1%,619K	RN60D-6193F	TRW	4701-13-6193	1
21	DISPLAY	SP332	SPRRY	4899-00-0007	1
22	DISPLAY	SP334	SPRRY	4899-00-0008	1

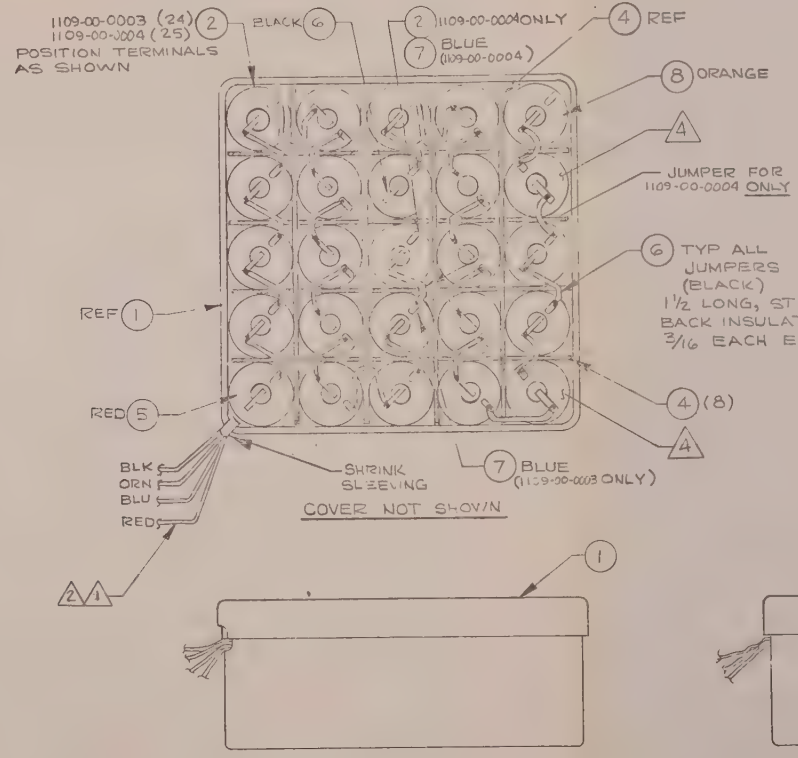
WAVETEK
PARTS LIST

TITLE
PCA,DISPLAY

ASSEMBLY NO.
1208-00-0531

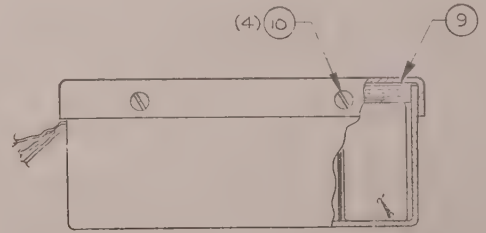
REV
B

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PI
Q5	TRANS	2N3905	ITT	4901-03-9050	1
Q4	TRANS	MPS-L01	FAIR	4902-00-0010	1
IC18	IC	DM8887N	NSC	8000-88-8700	1



CAUTION

CHARGED BA[illegible], DO NOT SHORT CIRCUIT BATTERY TERMINALS



4 BATTERIES ARE INSTALLED OPPOSITE DIRECTION TO PREVENT SHORTING (2 PLACES)

3 BATTERIES ARE COLOR CODED, ASSEMBLE BATTERY PACKS WITH LIKE COLORS OR COMBINATIONS INDICATED.

2 AMP PINS (4) ON ENDS OF WIRE HARNESS MUST BE COMPLETLY COVERED WITH SHRINK SLEEVING, OR EQUIV, BEFORE HARNESS IS CONNECTED TO BATTERY PACK.

1. [illegible] – TRANSMITTER, 24 BATTERY ASSY.
   SEE X'MTR, MAIN & BATTERY PACK, HARNESS BRD FOR WIRE LENGTHS
   [illegible] – RECEIVER, 25 BATTERY ASSY.
   SEE RECIEVER, BATTERY PACK, HARNESS BRD FOR WIRE LENGTHS

NOTES:

BATTERY COLOR COMBINATIONS

1. RED & BROWN
2. BROWN & BLU
3. BLU & GREEN
4. GRN & BLK/RED
5. BLK/RED & BLK/BRN

REV	ECN	BY	DATE	APP
J	# [illegible]			
H	ECN 1496			
G	ECN 1462			
F	ECN 1398			
E	ECN 1352			
D	ECN 1218			
C	ECN 77[illegible]			
B	[illegible]			
A	[illegible]			

TOLERANCE UNLESS OTHERWISE SPEC
.XXX ± .010
.XX ± .030
ANGLES ± 0°30'

WAVETEK SAN DIEGO CALIF

SCALE 1/1 | BY | DATE | APP

MATERIAL —

FINISH —

TITLE: BATTERY PACK ASSY (3A2)

MODEL NO [illegible] | DWG NO 0102-00-0[illegible] | REV J

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REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/P
NONE	ASSY DRWG,BATT PACK	0102-00-0373	WVTK	0102-00-0373	1
1	BOX,BAT	420-325	WVTK	1400-00-4400	1
9	FOAM	420-351	WVTK	1400-00-4580	1
NONE	STRIP,SEPARATOR	420-352	WVTK	1400-00-4590	8
NONE	CONN	60598-8	AMP	2100-05-0017	4
NONE	BATTERY	GCR1.0ST	GE	4000-02-0001	24
NONE	WIRE,TEFLON,22GA	MIL-W-16878 BLACK	TNLIT	6000-22-2000	1
NONE	WIRE,TEFLON,22GA	MIL-W-16878 RED	TNLIT	6000-22-2002	1
NONE	WIRE,TEFLON,22GA	MIL-W-16878 ORANGE	TNLIT	6000-22-2003	1
NONE	WIRE,TEFLON,22GA	MIL-W-16878 BLUE	TNLIT	6000-22-2006	1

WAVETEK
PARTS LIST

TITLE
BATT PACK-XMITTR

ASSEMBLY NO.
1109-00-0003

REV
F

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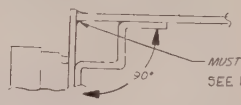
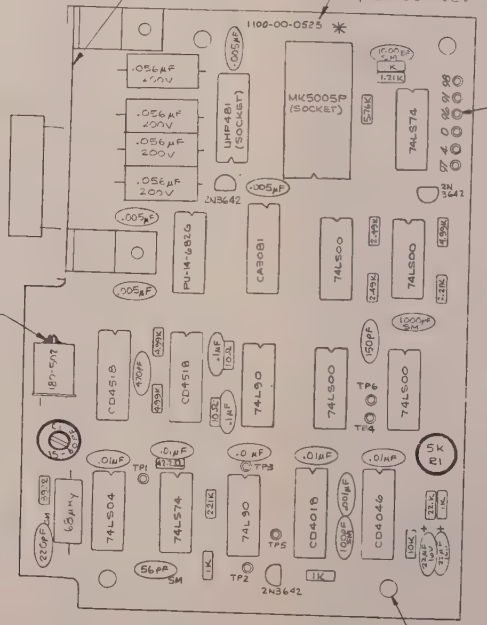


MUST BE RIGHT ANGLE - BEFORE SOLDERING
SEE NOTE ⚠1

INSTALL IC #DM8887 & SOCKET
(P/O ASSY.) 00-0531 AFTER
SOLDERING CONNECTOR

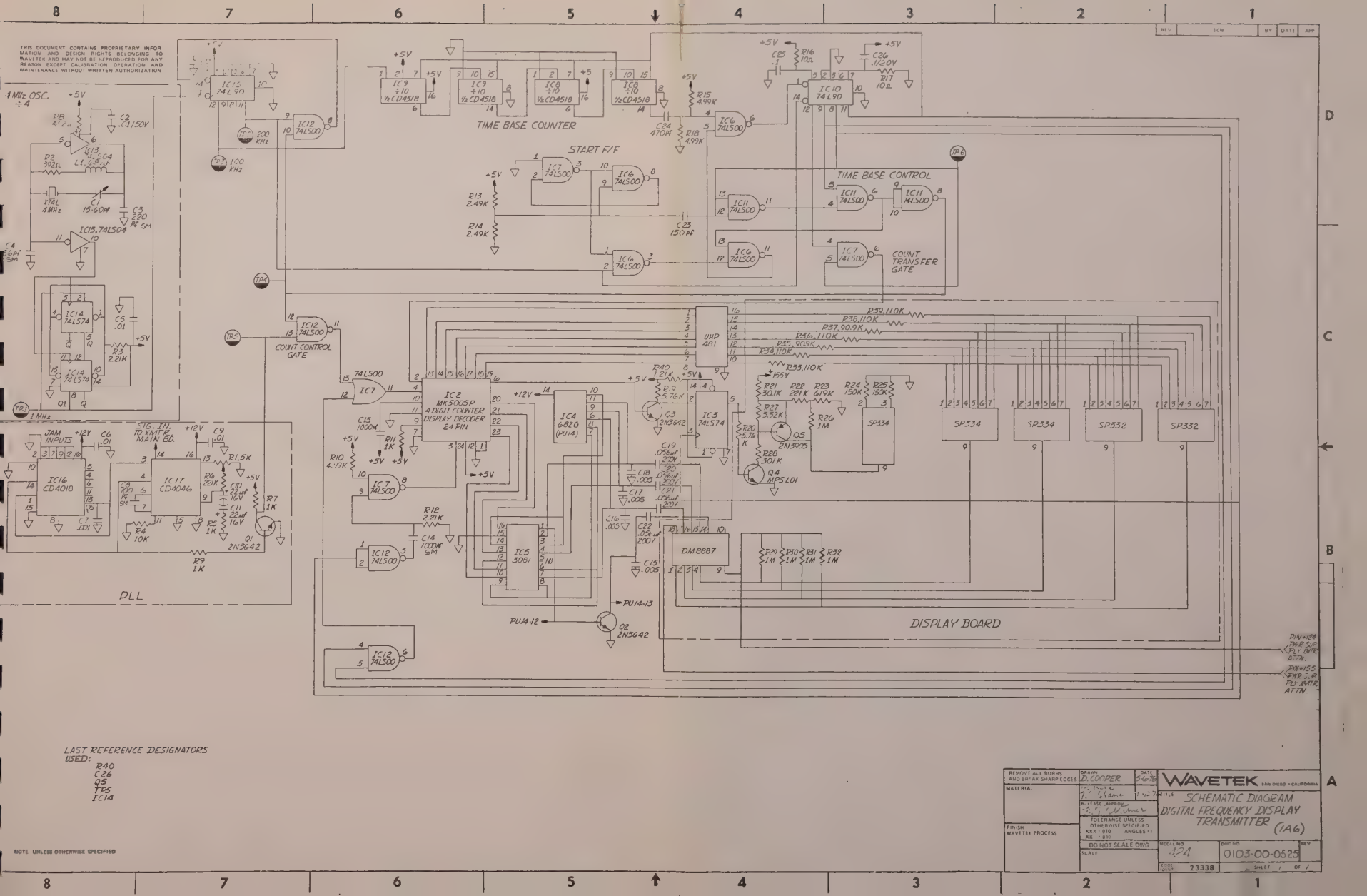
RUBBER STAMP
& LATEST REV



WHEN INS
SCREW M

⚠1 POP RIVET BRACKET TO BOTH BDS. PRIOR TO SOLDERING ETCH. SEE ASSY. 0101-00-0531.

NOTE UNLESS OTHERWISE SPECIFIED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1 MHz OSC. ÷4
TIME BASE COUNTER
START F/F
TIME BASE CONTROL
COUNT TRANSFER GATE
COUNT CONTROL GATE
PLL
DISPLAY BOARD
SCHEMATIC DIAGRAM
DIGITAL FREQUENCY DISPLAY TRANSMITTER (1A6)
WAVETEK SAN DIEGO, CALIFORNIA
0103-00-0525
LAST REFERENCE DESIGNATORS USED:
R40
C26
Q5
TP5
IC14
NOTE UNLESS OTHERWISE SPECIFIED

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/P
NONE	ASSY DRWG,DIGITAL	0101-00-0525	WVTK	0101-00-0525	1
NONE	SCHEMATIC,DISPLAY	0103-00-0525	WVTK	0103-00-0525	1
NONE	PCA,DISPLAY	424/425-531	WVTK	1208-00-0531	1
NONE	BRACKET	425-307	WVTK	1400-00-6553	2
C7	CAP,CER,.001MF,1KV	DD-102	ARCO	1500-01-0211	1
C12 C2 C5 C6 C9	CAP,CER,.01MF,50V	CK-103	CRL	1500-01-0310	5
C25 C26	CAP,CER,.1MF,20V	UK20-104	CRL	1500-01-0413	2
C23	CAP,CER,150PF,1KV	DD-151	ARCO	1500-01-5111	1
C24	CAP,CER,470PF,1KV	DD-471	ARCO	1500-04-7111	1
C15 C16 C17 C18	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	4
C8	CAP,MICA,100PF,500V	DM15-101J	ARCO	1500-11-0100	1
C13 C14	CAP,MICA,1000PF,500V	DM19-102F	ARCO	1500-11-0201	2
C3	CAP,MICA,220PF,500V	DM15-221J	ARCO	1500-12-2100	1
C4	CAP,MICA,56PF,500V	DM15-560J	ARCO	1500-15-6000	1
C19 C20 C21 C22	POLY,.056MF,200V	192P56392	SPRAG	1500-45-6304	4
C1	VARI,15-60PF,200V	538-011-112F	ERIE	1500-56-0010	1
C10 C11	CAP,TANT,22MF,15V	196D226X9015KA1	SPRAG	1500-72-2601	2
1	PCB,DIGITAL FREQ	424-510	WVTK	1700-00-0525	1

WAVETEK
PARTS LIST

TITLE
PCA,DIGITAL FREQ

ASSEMBLY NO.
1100-00-0525

REV
B

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/P
26	CHOKE	3710-3-2	CAMBN	1800-00-0001	1
59	SKT,IC,16PIN	16-DIP	CINCH	2100-03-0022	1
60	SKT,IC,24PIN	DILB-24P-108	BURND	2100-03-0029	1
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	12
25	CRYSTAL,4MHZ	180-502	WVTK	2300-99-0004	1
R1	POT,TRIM,5K	91AR5K	BECK	4600-05-0205	1
R11 R5 R7 R9	RES,MF,1/8W,1%,1K	RN55D-1001F	TRW	4701-03-1001	4
R4	RES,MF,1/8W,1%,10K	RN55D-1002F	TRW	4701-03-1002	1
R16 R17	RES,MF,1/8W,1%,10	RN55D-10R0F	TRW	4701-03-1009	2
R40	RES,MF,1/8W,1%,1.21K	RN55D-1211F	TRW	4701-03-1211	1
R12 R3	RES,MF,1/8W,1%,2.21K	RN55D-2211F	TRW	4701-03-2211	2
R6	RES,MF,1/8W,1%,221K	RN55D-2213F	TRW	4701-03-2213	1
R13 R14	RES,MF,1/8W,1%,2.49K	RN55D-2491F	TRW	4701-03-2491	2
R2	RES,MF,1/8W,1%,392	RN55D-3920F	TRW	4701-03-3920	1
R8	RES,MF,1/8W,1%,42.2	RN55D-42R2F	TRW	4701-03-4229	1
R10 R15 R18	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	3
R19	RES,MF,1/8W,1%,5.76K	RN55D-5761F	TRW	4701-03-5761	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
IC4	RES MODULE	899-1-R6.8K	BECK	4770-00-0003	1
Q1 Q2 Q3	TRANS	2N3642	FAIR	4901-03-6420	3
IC5	IC	CA3081	RCA	7000-30-8100	1
IC16	IC	CD4018AE	RCA	7000-40-1800	1
IC17	IC	CD4046AE	RCA	7000-40-4600	1
IC1	IC	UHP481	SPRAG	8000-04-8100	1
IC8 IC9	IC	CD4518BE	RCA	8000-45-1810	2
IC2	IC	MK5005P	MOSTK	8000-50-0500	1
IC11 IC12 IC6 IC7	IC	74LS00	TI	8000-74-0010	4
IC13	IC	74LS04	TI	8000-74-0410	1
IC14 IC3	IC	74LS74	TI	8000-74-7410	2
IC10 IC15	IC	74L90	TI	8000-74-9011	2

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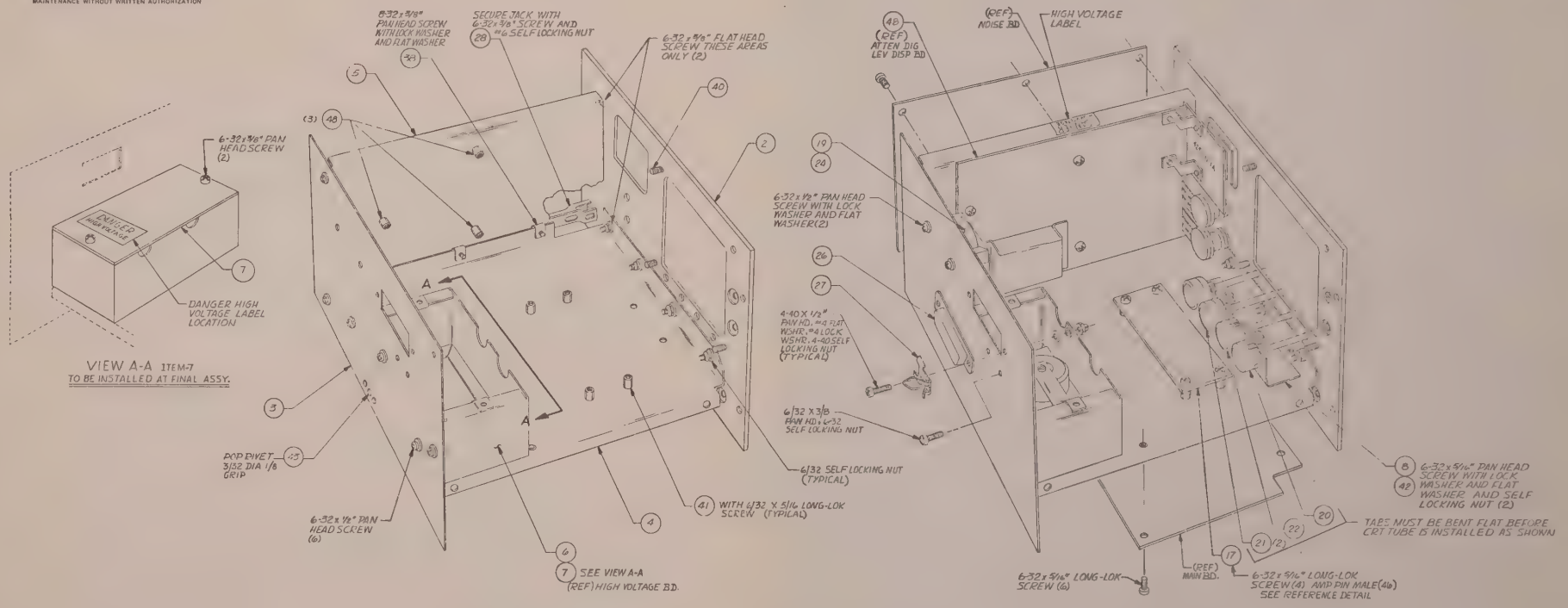
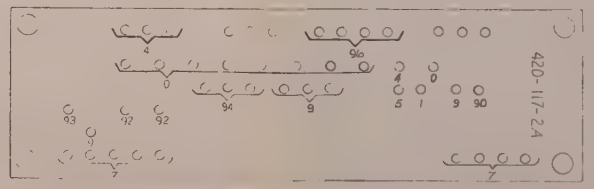

6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER
SECURE JACK WITH 6-32 x 3/8" SCREW AND #6 SELF LOCKING NUT
6-32 x 3/8" FLAT HEAD SCREW THESE AREAS ONLY (2)
6-32 x 3/8" PAN HEADSCREW (2)
DANGER HIGH VOLTAGE LABEL LOCATION
VIEW A-A ITEM-7
TO BE INSTALLED AT FINAL ASSY.
POP RIVET 3/32 DIA 1/8 GRIP
6-32 x 1/2" PAN HEAD SCREW (6)
6/32 SELF LOCKING NUT (TYPICAL)
WITH 6/32 X 5/16 LONG-LOK SCREW (TYPICAL)
SEE VIEW A-A
(REF) HIGH VOLTAGE BD.
(REF) ATTEN DIG LEV DISP BD
(REF) NOISE BD
HIGH VOLTAGE LABEL
6-32 x 1/2" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER(2)
4-40 X 1/2" PAN HD. #4 FLAT WSHR. #4 LOCK WSHR. 4-40 SELF LOCKING NUT (TYPICAL)
6/32 X 3/8 PAN HD. 6-32 SELF LOCKING NUT
6-32 x 5/16" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER AND SELF LOCKING NUT (2)
TABS MUST BE BENT FLAT BEFORE CRT TUBE IS INSTALLED AS SHOWN
6-32 x 5/16" LONG-LOK SCREW (6)
(REF) MAIN BD.
6-32 x 5/16" LONG-LOK SCREW (4) AMP PIN MALE(46) SEE REFERENCE DETAIL

ASSEMBLY SEQUENCE
VIEW "A"
CHASSIS ASSY.

ASSEMBLY SEQUENCE
VIEW "B"
P.C. BOARDS AND HARDWARE
ASSY.

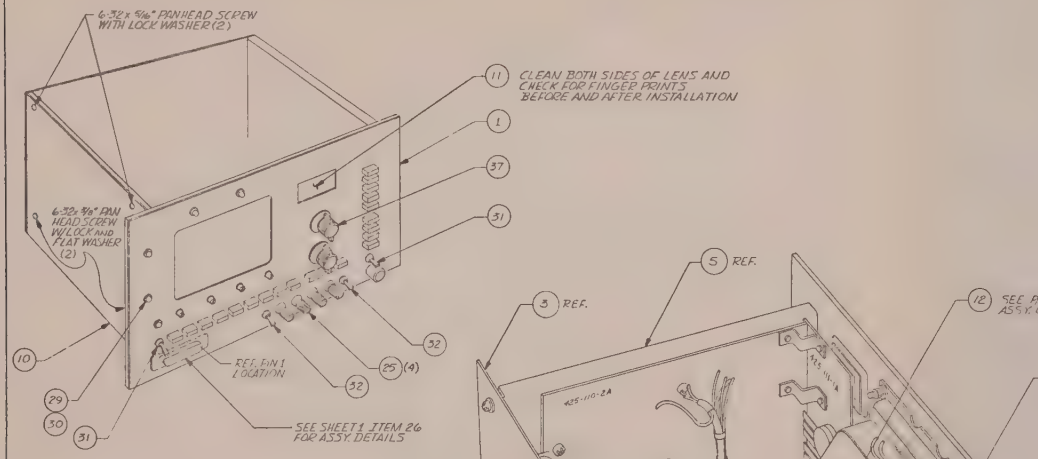


ITEM 17 (REF. ASSY.) AMP PIN AND WIRE LOCATIONS
(REF. ASSY.)

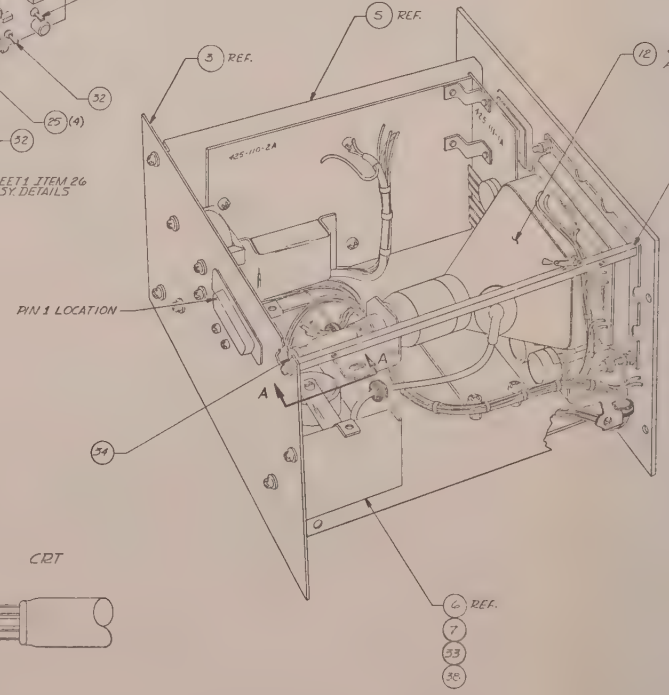
4. MOUNT ALL SWAGE COMPONENTS BEFORE ASSEMBLING CHASSIS
3. SECURE ITEMS 43 AND 44 WITH POP RIVET GUN
2. ALL SCREWS SECURING REAR PANEL USE FLAT WASHERS AND LOCK WASHERS
1. ALL PC BOARD INSTALLATION USES 6-32 x 5/16" LONGLOK SCREWS TO SECURE BOARDS TO STANDOFFS IN CHASSIS

NOTE UNLESS OTHERWISE SPECIFIED

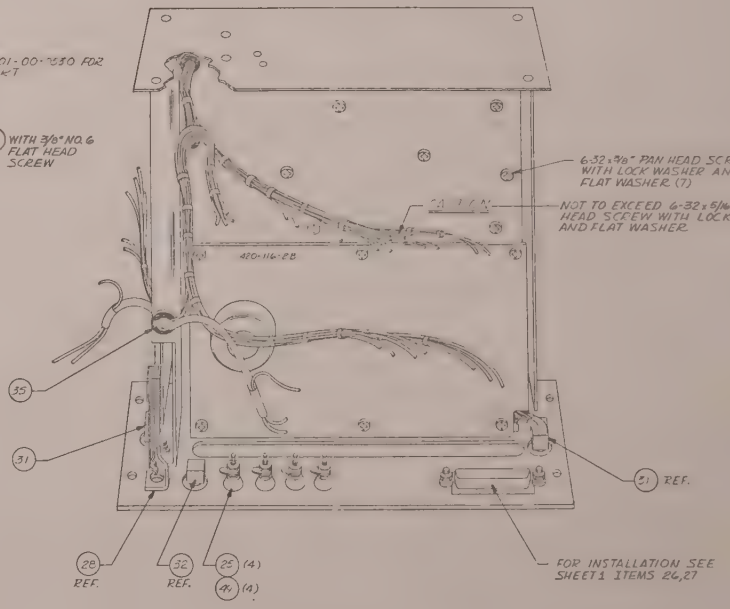
REMOVE ALL BURRS AND BREAK SHARP EDGES
DRAWN J. COOPER
MATERIAL
FINISH
WAVETEK SAN DIEGO, CALIFORNIA
TITLE ASSEMBLY RECEIVER
SIZE D
DRAWING NO. 425
REV. 0102-00-0527



FRONT PANEL INSTALLATION

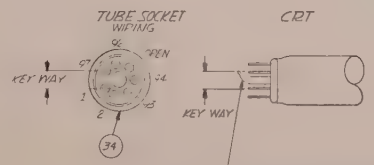


VIEW C
HARNESS ROUTING AND CRT TUBE INSTALLATION

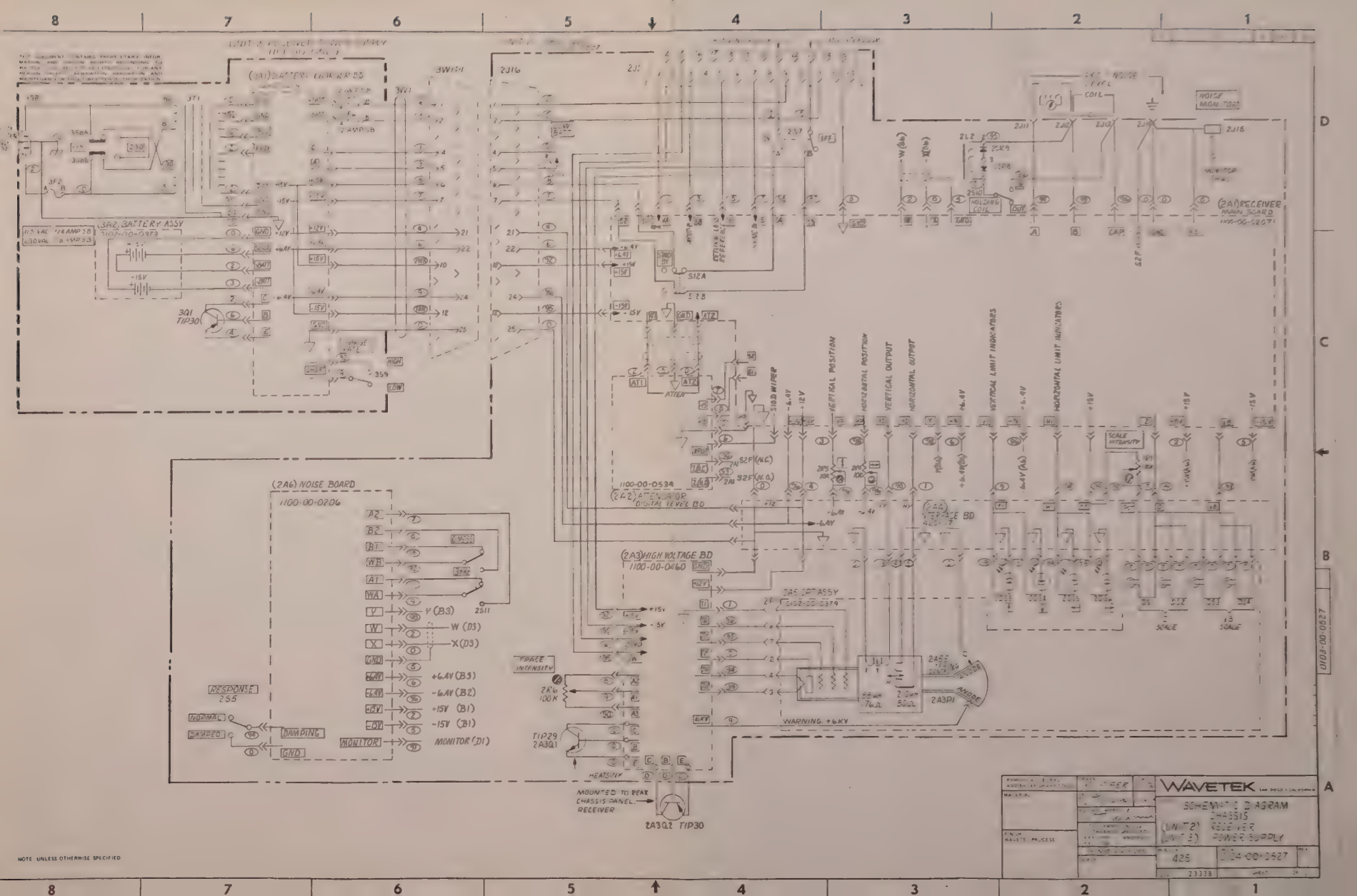

6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (7)
NOT TO EXCEED 6-32 x 5/16" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER.
35
31
21 REF.
28 REF.
32 REF.
25 (4)
4 (4)
FOR INSTALLATION SEE SHEET 1 ITEMS 26,27

VIEW D
HARNESS ROUTING BOTTOM SIDE

VIEW "A-A"


TUBE SOCKET WIRING
CRT
PIN
KEY WAY
KEY WAY
CAUTION DO NOT CHIP END OF CRT TUBE WHEN INSTALLING SOCKET - TUBE UNDER VACUUM PRESSURE

WAVETEK
ASSEMBLY
RECEIVER


(2A1) RECEIVER MAIN BOARD
1100-00-0207
(2A2) ATTENUATOR DIGITAL LEVEL BD
1100-00-0534
(2A3) HIGH VOLTAGE BD
1100-00-0460
(2A6) NOISE BOARD
1100-00-0206
(3A1) BATTERY CHARGER BD
(3A2) BATTERY ASSY
3102-00-0372
2A5 CRT ASSY
3102-00-0379
VERTICAL POSITION
HORIZONTAL POSITION
VERTICAL OUTPUT
HORIZONTAL OUTPUT
VERTICAL LIMIT INDICATORS
HORIZONTAL LIMIT INDICATORS
SCALE INTENSITY
TRACE INTENSITY
RESPONSE
NORMAL
DAMPED
DAMPING
GND
MONITOR
MONITOR (D1)
+6.4V (B3)
-6.4V (B2)
+15V (B1)
-15V (B1)
V (B3)
W (D3)
X (D3)
WARNING +6KV
MOUNTED TO REAR CHASSIS PANEL, RECEIVER
2A302 TIP30
2A301 TIP29
3Q1 TIP30
HEATSINK
WAVETEK
SCHEMATIC DIAGRAM
CHASSIS
RECEIVER
POWER SUPPLY
425
01-00-0527
0103-00-0527
NOTE UNLESS OTHERWISE SPECIFIED

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,RECEIVER	0102-00-0527	WVTK	0102-00-0527	1
NONE	SCHEMATIC,RECEIVER	0104-00-0527	WVTK	0104-00-0527	1
19	TRANSFORMER	420-525	WVTK	1204-00-0572	1
NONE	ASSY,CRT	424/425-530	WVTK	1206-00-0530	1
3	PANEL,REAR	420-326	WVTK	1400-00-4413	1
4	CHASSIS	420-327	WVTK	1400-00-4423	1
6	ENCLOSURE,HV	420-329	WVTK	1400-00-4443	1
7	COVER	420-330	WVTK	1400-00-4453	1
8	BRKT	420-331	WVTK	1400-00-4463	1
9	BAR	420-332	WVTK	1400-00-4473	1
10	PLATE,SIDE	420-344	WVTK	1400-00-4543	1
1	FT.PANEL	425-300	WVTK	1400-00-6540	1
5	CHASSIS,VERT	425-308	WVTK	1400-00-6403	1
2	SUB PANEL	425-301	WVTK	1400-00-6443	1
11	FILTER,POLORIOD	425-309	WVTK	1400-00-6560	1
17	INTERFACE	420-117	WVTK	1700-00-0210	1
NONE	BINDING POST	DF-21-BC	SUPER	2100-01-0001	4
26	CONN	DBC-25P	CINCH	2100-02-0001	1

WAVETEK
PARTS LIST

TITLE
PCA,RECEIVER

ASSEMBLY NO.
1101-00-0527

REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
28	PHONE JACK	MT-332B	SWCFT	2100-02-0045	1
34	SKT,CRT	S7-502B	INIMP	2100-03-0009	1
NONE	SOLDER LUG	1412-6	SMITH	2100-04-0023	4
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	46
NONE	SPRING LATCH ASSY	D110277	CAN	2100-07-0002	2
NONE	KNOB	708-3-2G	RAYTH	2400-01-0006	2
NONE	STANDOFF,SWAGE .125 H,.250 HEX 6-32,.062 MAT'L	B1531B-1/8-11	USECO	2800-02-0021	3
NONE	STANDOFF,SWAGE .250 H,.250 HEX 6-32,.062 MAT' L	B1531B-1/4-11	USECO	2800-02-0022	16
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	17
NONE	PRESS BOLT	PB-6-32-SM-10	KUSAN	2800-09-0009	3
NONE	INSERT # 6	74-11-106-13	SOTCO	2800-09-0017	2
NONE	GROMMET,RUBBER	2175	SMITH	2800-10-0003	5
NONE	HDWE	OCL	OPCOA	2800-12-0003	5
43	NUT,FLOATING	LHTA-521-2860-82	ESNA	2800-16-0001	1
NONE	LOCK NUT	21FA-440	SPS	2800-16-0004	6

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	LOCK NUT	21FA-632	SPS	2800-16-0005	6
NONE	LABLE,CAUTION	B500-8513472-1	BRADY	2800-29-0001	2
20	POT,CONT,100	420-522	WVTK	4600-01-0101	1
NONE	POT,CONT,10K	420-523	WVTK	4600-01-0314	2
22	POT,CONT,100K	420-524	WVTK	4600-01-0401	1
NONE	DIODE	1N4744	MOT	4801-01-4744	2
NONE	LED	LSM-6L-1	OPCOA	4899-00-0004	5
NONE	SWITCH,TOGGLE	7101 P3DCQN	C&K	5106-00-0003	2
NONE	SWITCH,TOGGLE	7201 PDCN	C&K	5106-00-0009	2

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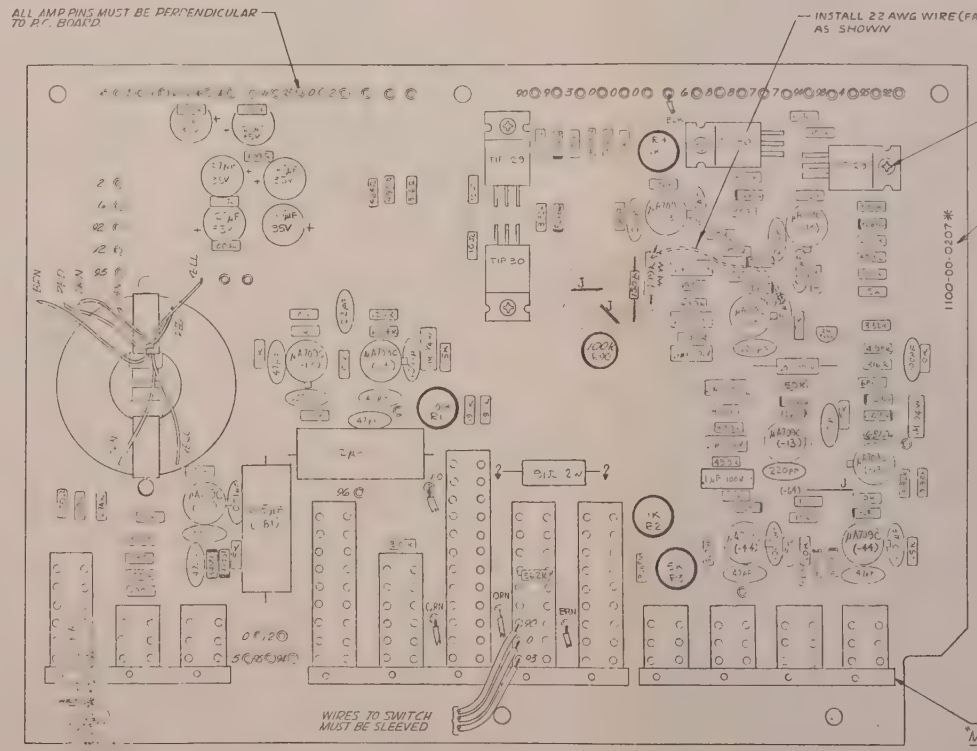
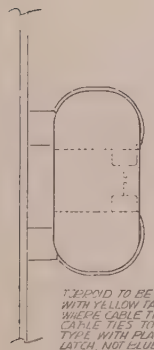
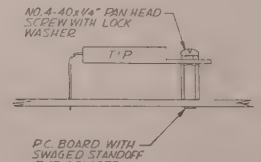

ALL AMP PINS MUST BE PERPENDICULAR TO P.C. BOARD.
INSTALL 22 AWG WIRE (FARSIDE) AS SHOWN
SEE DETAIL "A"
RUBBER STAMP ASSY NUMBER WITH LATEST REVISION
1100-00-0207 *
WIRES TO SWITCH MUST BE SLEEVED
ALL LATCH BARS "MUST BE METAL"

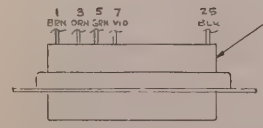


TYPICAL TO BE WRAPPED WITH YELLOW TAPE (2 PLCS) WHERE CABLE TIES TOUCH. CABLE TIES TO BE OF WHITE TYPE, WITH PLASTIC SLIDE LATCH, NOT BLUE OF WHITE TY-WRAP TIES WITH METAL LATCH TAB.

DETAIL "A"
TYPICAL "TIP" INSTALLATION
(TYP 4 PLACES)



CAUTION: TOP SOLDER AMP PINS WHERE POSSIBLE, 6 STANDOFFS
A) 4 ON TOP SIDE UNDER TIPS
B) 2 CIRCUIT SIDE UNDER TRANSFORMER



NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND SHARP EDGES	DRAWN J. TRACHMAN	DATE 7/1/75	WAVETEK SAN DIEGO, CALIFORNIA
MATERIAL —	PROGRAM 7/14/75		TITLE ASSEMBLY MAIN BOARD (RECEIVER) (2A1)
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ± .010 ANGLES ± 1 XX ± .030		
	DO NOT SCALE DWG	MDL NO 425/420	DWG NO 0101-00-0207 REV 0
	SCALE 2/1		

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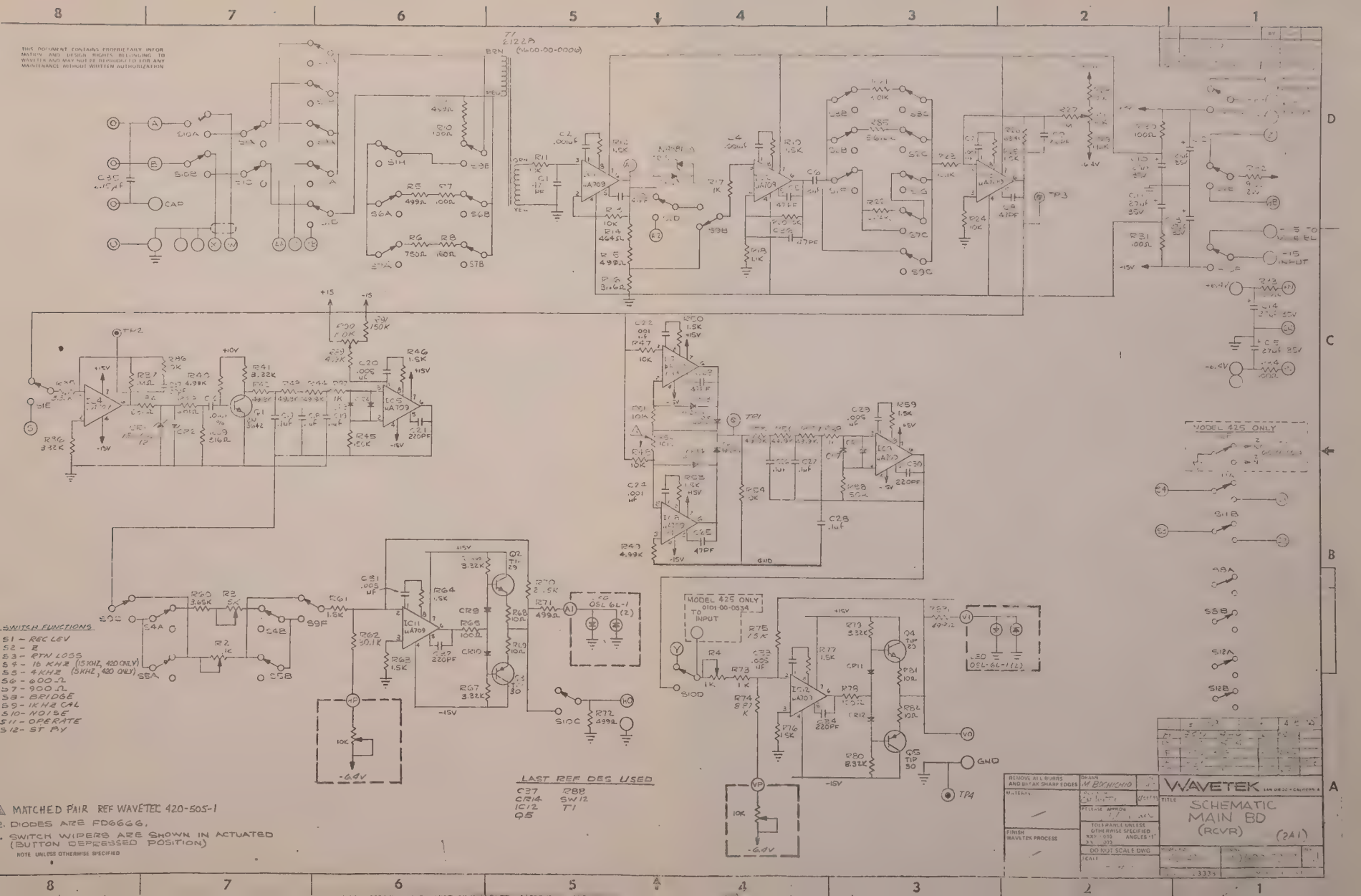
MATION AND DESIGN RIGHTS BELONGING TO
WAVETEK AND MAY NOT BE REPRODUCED FOR ANY
MAINTENANCE WITHOUT WRITTEN AUTHORIZATION



REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PI
NONE	ASSY DRWG,MAIN RCVR	0101-00-0207	WVTK	0101-00-0207	1
NONE	SCHEMATIC,MAIN RCVR	0103-00-0207	WVTK	0103-00-0207	1
C37	CAP,CER,100PF,1KV	DD-101	CRL	1500-01-0111	1
C2 C22 C24 C4 C7	CAP,CER,.001MF,1KV	DD-102	ARCO	1500-01-0211	5
C9	CAP,CER,22PF,1KV	DD-220	ARCO	1500-02-2011	1
C21 C30 C32 C34	CAP,CER,220PF,1KV	DD-221	ARCO	1500-02-2111	4
C1 C23 C25 C3 C36 C5 C8	CAP,CER,47PF,1KV	DD-470	ARCO	1500-04-7011	7
C20 C29 C31 C33	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	4
C16	CAP,POLYC,.01MF,100V	PA28103F	ELCUB	1500-41-0304	1
C17 C18 C19 C26 C27 C28	CAP,POLYE,.1MF,100V	225P10491WD3	SPRAG	1500-41-0444	6
C6	CAP,MYLR,2MF,200V	2MFW205K	AMRAD	1500-42-0504	1
C10 C11 C12 C13 C14 C15	CAP,TANT,27MF,35V	196D27eX0035rB	SPRAG	1500-72-7e02	6
C35	CAP,SEL,2MFW205K QTY:1:1500-42-0504	420-505-81	WVTK	1509-80-0006	1
105	REC. MAIN	420-116	WVTK	1700-00-0207	1
97	CONN	DBC-25S	CINCH	2100-02-0002	1
NONE	CONN	60598-8	AMP	2100-05-0017	5

WAVETEK
PARTS LIST

TITLE
MAIN-RCVR

ASSEMBLY NO.
1100-00-0207

REV
N

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	49
NONE	TIE STRAP	SST-1.5M	PANDT	2800-00-0003	2
ONE	TIE MOUNT	TM-256C	PANDT	2800-00-0005	2
NONE	STANDOFF,SWAGE .125 H,.250 DIA 4-40,.062 MAT'L	9531B-0440-3A	AMTOM	2800-03-0004	6
R6	TRANSIPAD	10123N	METRS	2800-11-0003	1
R2 R4	POT,TRIM,1K	91AR1K	BECK	4600-01-0209	2
R1	POT,TRIM,10K	91AR10K	BECK	4600-01-0315	1
R90	POT,TRIM,100K	91AR100K	BECK	4600-01-0402	1
R3	POT,TRIM,5K	91AR5K	BECK	4600-05-0205	1
R32	RES,C,2W,5%,91	RC42GF-910	STKPL	4700-45-0910	1
R10 R30 R31 R33 R34 R65 R7 R78	RES,MF,1/8W,1%,100	RN55D-1000F	TRW	4701-03-1000	8
R17 R73 R87 R88	RES,MF,1/8W,1%,1K	RN55D-1001F	TRW	4701-03-1001	4
R11 R13 R20 R24 R47 R51 R54 R86	RES,MF,1/8W,1%,10K	RN55D-1002F	TRW	4701-03-1002	8
R68 R69 R81 R82	RES,MF,1/8W,1%,10	RN55D-10R0F	TRW	4701-03-1009	4
R18	RES,MF,1/8W,1%,1.1K	RN55D-1101F	TRW	4701-03-1101	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R25	RES,MF,1/8W,1%,12.1K	RN55D-1212F	TRW	4701-03-1212	1
R8	RES,MF,1/8W,1%,150	RN55D-1500F	TRW	4701-03-1500	1
R12 R19 R25 R46 R50 R53 R59 R61 R63 R64 R76 R77	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	12
R75	RES,MF,1/8W,1%,15K	RN55D-1502F	TRW	4701-03-1502	1
R45 R58 R91	RES,MF,1/8W,1%,150K	RN55D-1503F	TRW	4701-03-1503	3
R28 R29	RES,MF,1/8W,1%,19.1K	RN55D-1912F	TRW	4701-03-1912	2
R70	RES,MF,1/8W,1%,21.5K	RN55D-2152F	TRW	4701-03-2152	1
R22	RES,MF,1/8W,1%,2.74K	RN55D-2741F	TRW	4701-03-2741	1
R21	RES,MF,1/8W,1%,3.01K	RN55D-3011F	TRW	4701-03-3011	1
R62	RES,MF,1/8W,1%,30.1K	RN55D-3012F	TRW	4701-03-3012	1
R39	RES,MF,1/8W,1%,316	RN55D-3160F	TRW	4701-03-3160	1
R16	RES,MF,1/8W,1%,31.6	RN55D-31R6F	TRW	4701-03-3169	1
R35 R36 R41 R66 R67 R79 R80	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	7
R60	RES,MF,1/8W,1%,3.65K	RN55D-3651F	TRW	4701-03-3651	1
R14	RES,MF,1/8W,1%,464	RN55D-4640F	TRW	4701-03-4640	1
R15 R5 R71 R72 R83 R9	RES,MF,1/8,1%,499	RN55D-4990F	TRW	4701-03-4990	6

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
R40 R49	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	2
R42 R43 R44 R55 R56 R57	RES,MF,1/8W,1%,49.9K	RN55D-4992F	TRW	4701-03-4992	6
R85	RES,MF,1/8W,1%,56.2K	RN55D-5622F	TRW	4701-03-5622	1
R26	RES,MF,1/8W,1%,63.4K	RN55D-6342F	TRW	4701-03-6342	1
R38 R84	RES,MF,1/8W,1%,681	RN55D-6810F	TRW	4701-03-6810	2
R6	RES,MF,1/8W,1%,750	RN55D-7500F	TRW	4701-03-7500	1
R74	RES,MF,1/8W,1%,8.87K	RN55D-8871F	TRW	4701-03-8871	1
R27 R37	RES,MF,1/4W,1%,1M	RN60D-1004F	TRW	4701-13-1004	2
R89	RES,MF,1/4W,1%,499K	RN60D-4993F	TRW	4701-13-4993	1
R48 R52	RES,SET,2-10K,1/8W QTY:2:4701-03-1002	142-501-64A	MVIK	4789-00-0019	1
CR1 CR15 CR16 CR2	DIODE,ZENER 6.2V	1N823A	MPL	4801-01-0823	4
CR10 CR11 CR12 CR3 CR4 CR7 CR8 CR9	DIODE	FD-6666	FAIR	4807-02-6666	8
CR13 CR14 CR5 CR6	DIODE	5082-2811	HP	4809-02-2811	4
Q1	TRANS	2N3642	FAIR	4901-03-6420	1
Q2 Q4	TRANS	TIP-29	TI	4902-00-0290	2
Q3 Q5	TRANS	TIP-30	TI	4902-00-0300	2

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY.
90	SWITCH ASSY PB	420-401	WVTK	5103-00-0013	1
89	SWITCH ASSY PB	420-402	WVTK	5103-00-0014	1
NONE	SWITCH ASSY PB	750-400	WVTK	5103-00-0019	2
NONE	BUTTON	J-52305-BLACK	CRL	5103-04-0003	12
84	TRANSFORMER	420-509	WVTK	5600-00-0006	1
IC1 IC11 IC12 IC2 IC3 IC4 IC5 IC9	IC,CLASS I,MA-709 QTY:1:7000-07-0900	130-501-13	WVTK	7200-00-0005	8
IC7 IC8	IC,CL I SPEC,MA-709 QTY:1:7200-00-0005	750-501-44	WVTK	7200-00-0007	2

WAVETEK
PARTS LIST

TITLE
MAIN-RCVR

ASSEMBLY NO.
1100-00-0207

REV
4

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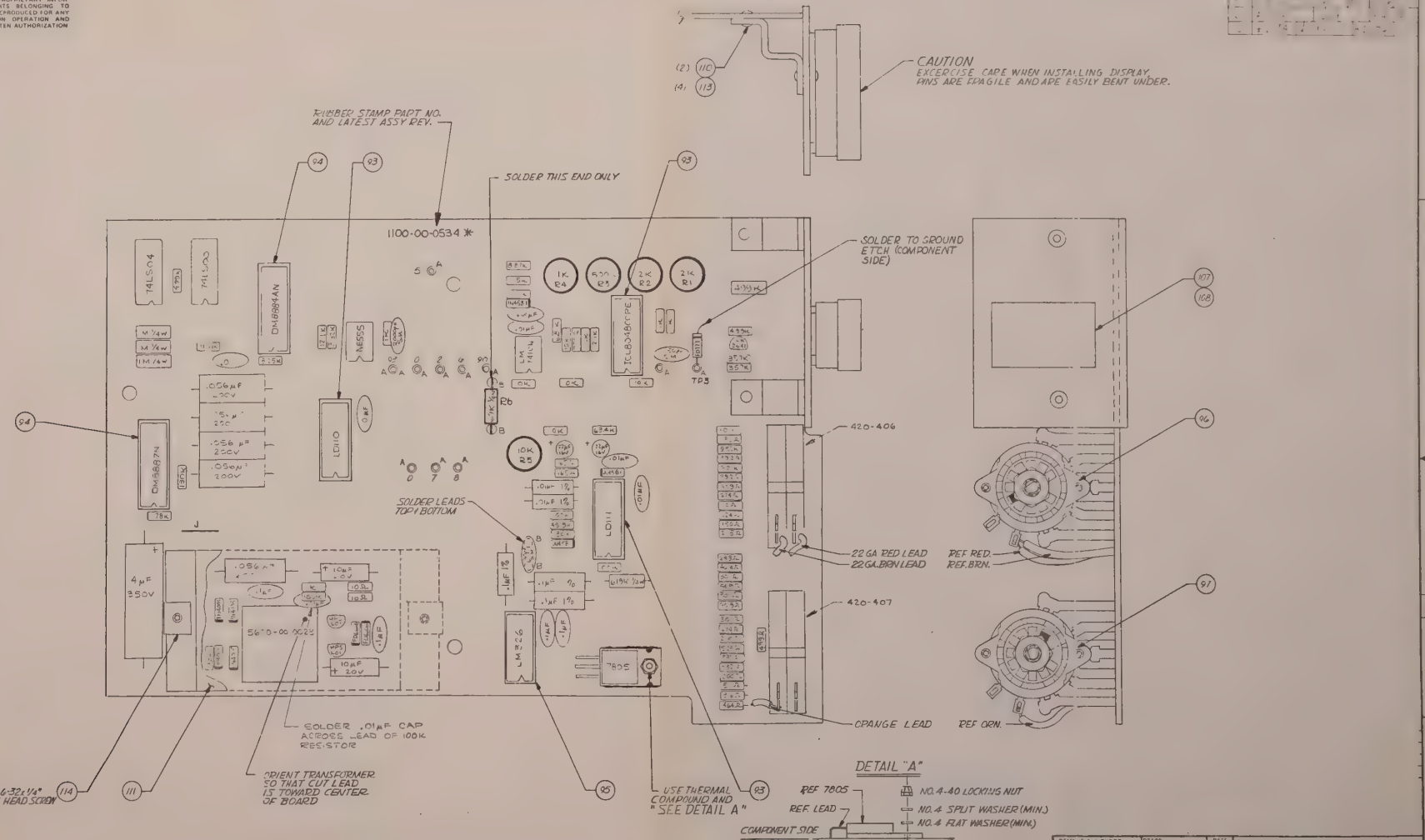
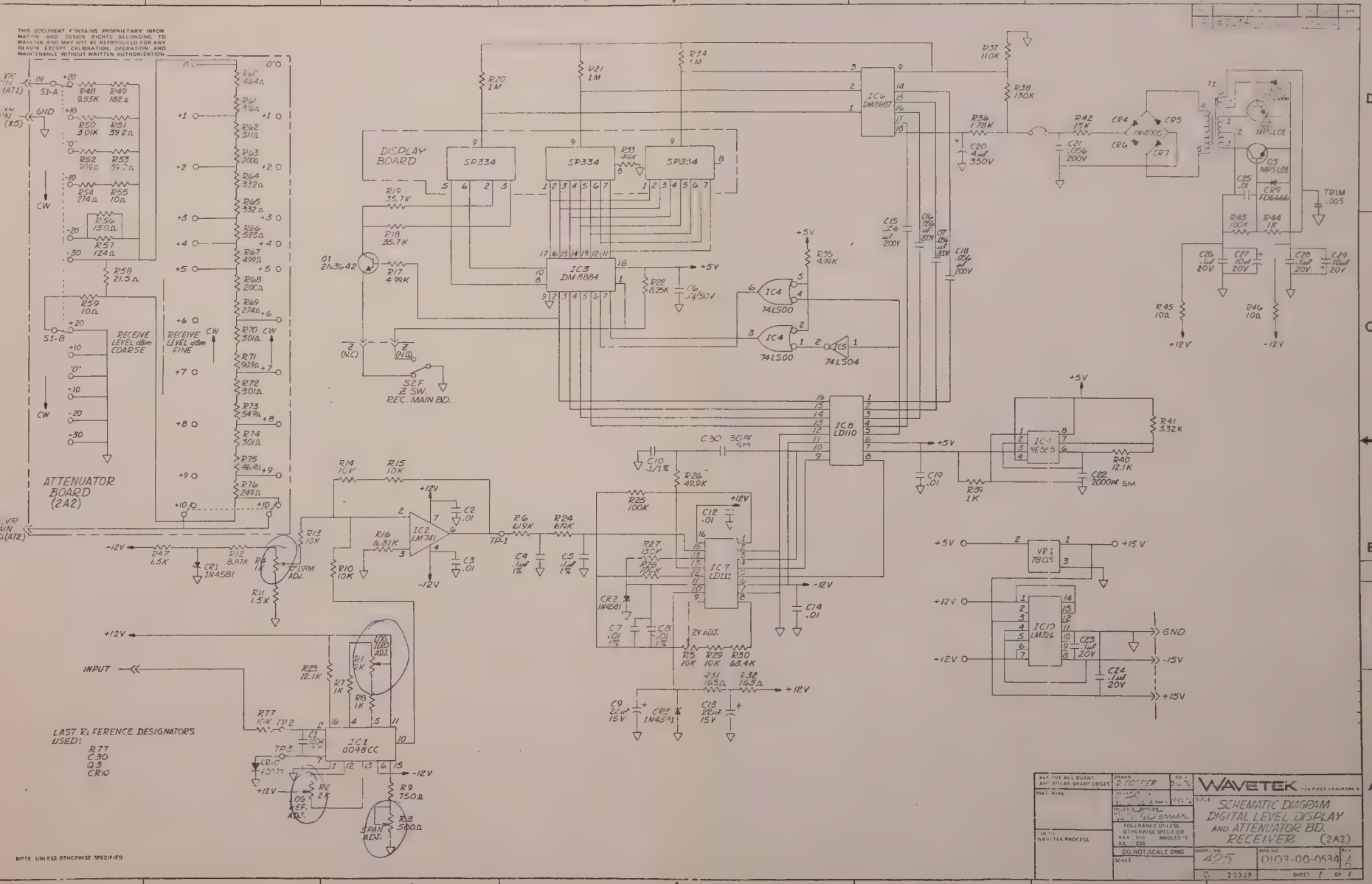


REMOVE ALL BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH WAVETEK PROCESS
DRAWN M. REDMAN
ENGR T. WINN
RELEASE APPROV R. T. WINN
TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ± .010 ANGLES ±1° XX ± .030
DO NOT SCALE DRAWING
SCALE 2/1
WAVETEK SAN DIEGO, CALIFORNIA
TITLE ASSEMBLY, ATTENUATOR/DIGITAL LEVEL DISPLAY (RECEIVER) (222)
MODEL NO
DRAWING NO 0101-00-0534
CAGE NO 23338
SHEET OF

0101-00-0534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ATTENUATOR BOARD (2A2)
DISPLAY BOARD
SP334
SP334
SP334
IC3 DM8884
IC4 74LS00
IC4 74LS00
IC5 74LS04
IC6 DM8837
IC8 LD110
IC7 LD111
IC1 8048CC
IC2 LM741
IC9 NE545
IC10 LM336
VR1 7805
Q1 2N3642
Q2 MPSL01
Q3 MPSL01
CR1 1N4581
CR2 1N4581
CR3 1N4581
CR4 1N4148
CR5
CR6
CR7
CR9 FD6666
S1-A
S1-B
S2F Z SW. REC. MAIN BD.
RECEIVE LEVEL dBm COARSE
RECEIVE LEVEL dBm FINE
CW
INPUT
+12V
-12V
+5V
+15V
-15V
GND
TRIM .005
2V ADJ.
LAST REFERENCE DESIGNATORS USED:
R77
C30
Q3
CR10
NOTE UNLESS OTHERWISE SPECIFIED
WAVETEK SAN DIEGO, CALIFORNIA
SCHEMATIC DIAGRAM DIGITAL LEVEL DISPLAY AND ATTENUATOR BD. RECEIVER (2A2)
MODEL NO. 425
DWG NO. 0102-00-0534
REV A
SHEET 1 OF 1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	
	ASSY DRWG,DIG/ATTN	0101-00-0534	WVTK	0101-00-0534	1
	SCHEMATIC,DIG/ATTN	0103-00-0534	WVTK	0103-00-0534	1
	TRANSFORMER	5600-00-0023	WVTK	1204-00-0012	1
1	COVER H.V.	425-306	WVTK	1400-00-0523	1
INR	BRACKET	425-307	WVTK	1400-00-0533	1
12 C14 C19 C2 C25 C3 9	CAP,CER,.01MF,50V	CK-103	CRL	1500-01-0310	7
23 C24 C26 C28	CAP,CER,.1MF,20V	UK20-104	CRL	1500-01-0413	4
1	CAP,MICA,150PF,500V	DM15-151J	ARCO	1500-11-5100	1
22	CAP,MICA,2000PF,500V	DM19-202J	ARCO	1500-12-0200	1
30	CAP,MICA,30PF,500V	DM15-300J	ARCO	1500-13-0000	1
20	CAP,ELECT,4MF,350V	TVA-1601	SPRAG	1500-30-4005	1
7 C8	CAP,POLYC,.01MF,100V	PA2B103F	ELCOB	1500-41-0303	2
10 C4 C5	CAP,POLYC,.1MF,100V	PA2B104F	ELCOB	1500-41-0404	3
15 C16 C17 C18 C21	POLY,.056MF,200V	192P56392	SPRAG	1500-45-6304	5
27 C29	CAP,TANT,10MF,20V	150D106X9020B2	SPRAG	1500-71-0601	2
13 C9	CAP,TANT,22MF,15V	196D226X9015KA1	SPRAG	1500-72-2601	2
	PCB,DIGITAL-ATTEN	425-510	WVTK	1700-00-0534	1

WAVETEK
PARTS LIST

TITLE
PCA,DIGITAL-ATTEN

ASSEMBLY NO.
1101-00-0534

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/P
105	PCB,DIG-ATTEN DISPLY	425-511	WVTK	1700-00-0535	1
95	SKT,IC,14PIN	14-DIP	CINCH	2100-03-0011	1
108	SKT DISPLAY	CS333	BECK	2100-03-0020	1
93 93A 93B	SKT,IC,16PIN	16-DIP	CINCH	2100-03-0022	3
94 94A	SKT,IC,18 PIN	18-DIP	CINCH	2100-03-0023	2
NONE	TERM	2000B1	USECO	2100-05-0009	4
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	11
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	2
100	LOCK NUT	21FA-440	SPS	2800-16-0004	1
R4	POT,TRIM,1K	91AR1K	BECK	4600-01-0209	1
R5	POT,TRIM,10K	91AR10K	BECK	4600-01-0315	1
R1 R2	POT,TRIM,2K	91AR2K	BECK	4600-02-0201	2
R3	POT,TRIM,500	91AR500	BECK	4600-05-0104	1
R39 R44 R7 R8	RES,MF,1/8W,1%,1K	RN55D-1001F	IRC	4701-03-1001	4
R10 R13 R14 R15 R29 R77	RES,MF,1/8W,1%,10K	RN55D-1002F	IRC	4701-03-1002	6
R25 R28 R43	RES,MF,1/8W,1%,100K	RN55D-1003F	IRC	4701-03-1003	3
R45 R46 R55 R59	RES,MF,1/8W,1%,10	RN55D-10R0F	IRC	4701-03-1009	4

WAVETEK
PARTS LIST

TITLE
PCA,DIGITAL-ATTEN

ASSEMBLY NO.
1100-00-0534

REV
A

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
R64 R65	RES,MF,1/8W,1%,332	RN55D-3320F	TRW	4701-03-3320	2
R41	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	1
R18 R19	RES,MF,1/8W,1%,35.7K	RN55D-3572F	TRW	4701-03-3572	2
R51 R53	RES,MF,1/8W,1%,39.2	RN55D-39R2F	TRW	4701-03-3929	2
R60	RES,MF,1/8W,1%,464	RN55D-4640F	TRW	4701-03-4640	1
R75	RES,MF,1.8W,1%,46.4	RN55D-46R4F	TRW	4701-03-4649	1
R67	RES,MF,1/8,1%,499	RN55D-4990F	TRW	4701-03-4990	1
R17 R35	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	2
R26	RES,MF,1/8W,1%,49.9K	RN55D-4992F	TRW	4701-03-4992	1
R62	RES,MF,1/8W,1%,511	RN55D-5110F	TRW	4701-03-5110	1
R66	RES,MF,1/8W,1%,523	RN55D-5230F	TRW	4701-03-5230	1
R73	RES,MF,1/8W,1%,54.9	RN55D-54R9F	TRW	4701-03-5499	1
R30	RES,MF,1/8W,1%,63.4K	RN55D-6342F	TRW	4701-03-6342	1
R16	RES,MF,1/8W,1%,6.81K	RN55D-6811F	TRW	4701-03-6811	1
R9	RES,MF,1/8W,1%,750	RN55D-7500F	TRW	4701-03-7500	1
R22	RES,MF,1/8W,1%,8.25K	RN55D-8251F	TRW	4701-03-8251	1
R12	RES,MF,1/8W,1%,8.87K	RN55D-8871F	TRW	4701-03-8871	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
R52	RES,MF,1/8W,1%,909	RN55D-9090F	TRW	4701-03-9090	1
R71	RES,MF,1/8W,1%,90.9	RN55D-90R9F	TRW	4701-03-9099	1
R48	RES,MF,1/8W,1%,9.53K	RN55D-9531F	TRW	4701-03-9531	1
R20 R21 R34	RES,MF,1/4W,1%,1M	RN60D-1004F	TRW	4701-13-1004	3
R33	RES,MF,1/4W,1%,499K	RN60D-4993F	TRW	4701-13-4993	1
R24 R6	RES,MF,1/4W,1%,619K	RN60D-6193F	TRW	4701-13-6193	2
CR1 CR2 CR3	DIODE,ZENER 6.2V	1N823A	NPC	4801-01-0823	3
CR4 CR5 CR6 CR7	DIODE	1N4005	MOT	4806-01-4005	4
CR8 CR9	DIODE	FD-6666	FAIR	4807-02-6666	2
107	DISPLAY	SP334	SPRRY	4899-00-0008	1
Q1	TRANS	2N3642	FAIR	4901-03-6420	1
Q2 Q3	TRANS	MPS-L01	FAIR	4902-00-0010	2
96	SWITCH ASSY ROTARY	420-406	WVTK	5104-00-0021	1
97	SWITCH ASSY ROTARY	420-407	WVTK	5104-00-0022	1
IC10	IC	LM326	NSC	7000-03-2600	1
IC9	IC	NE555V	SIG	7000-05-5500	1
IC2	IC	MA-741	FAIR	7000-07-4100	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/P
IC8	IC	LD110	SILX	8000-01-1000	1
IC7	IC	LD111	SILX	8000-01-1100	1
IC4	IC	74LS00	TI	8000-74-0010	1
IC5	IC	74LS04	TI	8000-74-0410	1
VR1	VOLTAGE REGULATOR	7805393	FAIR	8000-78-0500	1
IC1	IC	ICL8048CCPE	INTSL	8000-80-4800	1
IC3	IC	DM8884AN	NSC	8000-88-8400	1
IC6	IC	DM8887N	NSC	8000-88-8700	1

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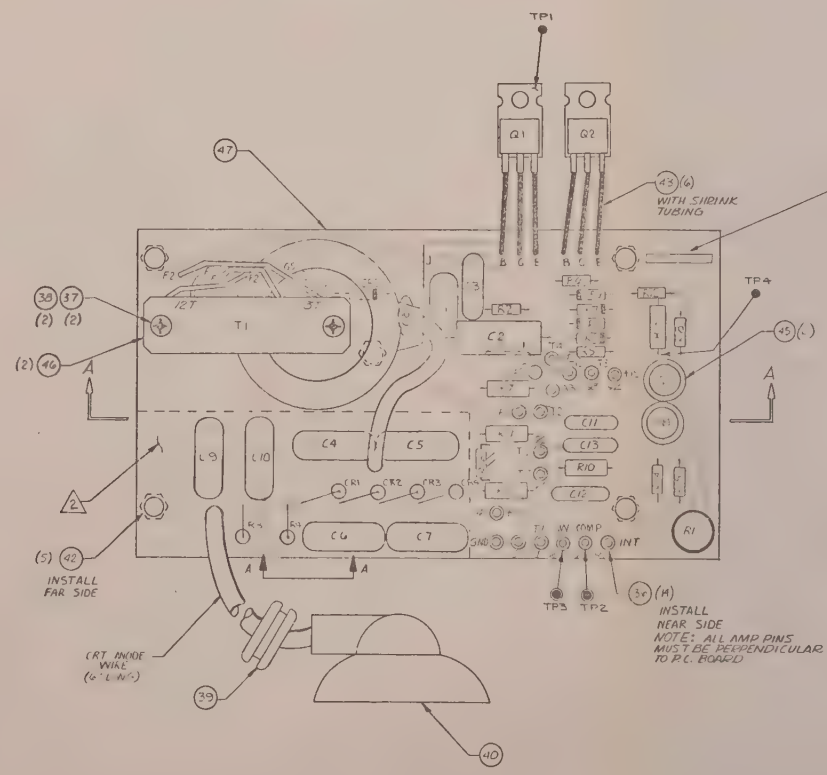
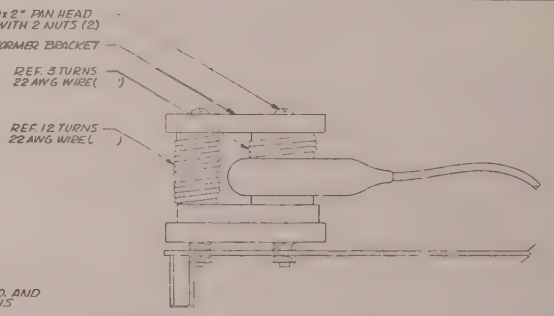
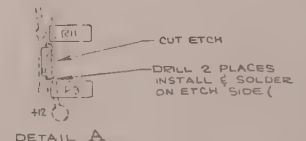
D	ECN 1946	KC	9/94
E	# 1948	JH	9-4





DETAIL VIEW "A"



DETAIL A
INSTALLATION

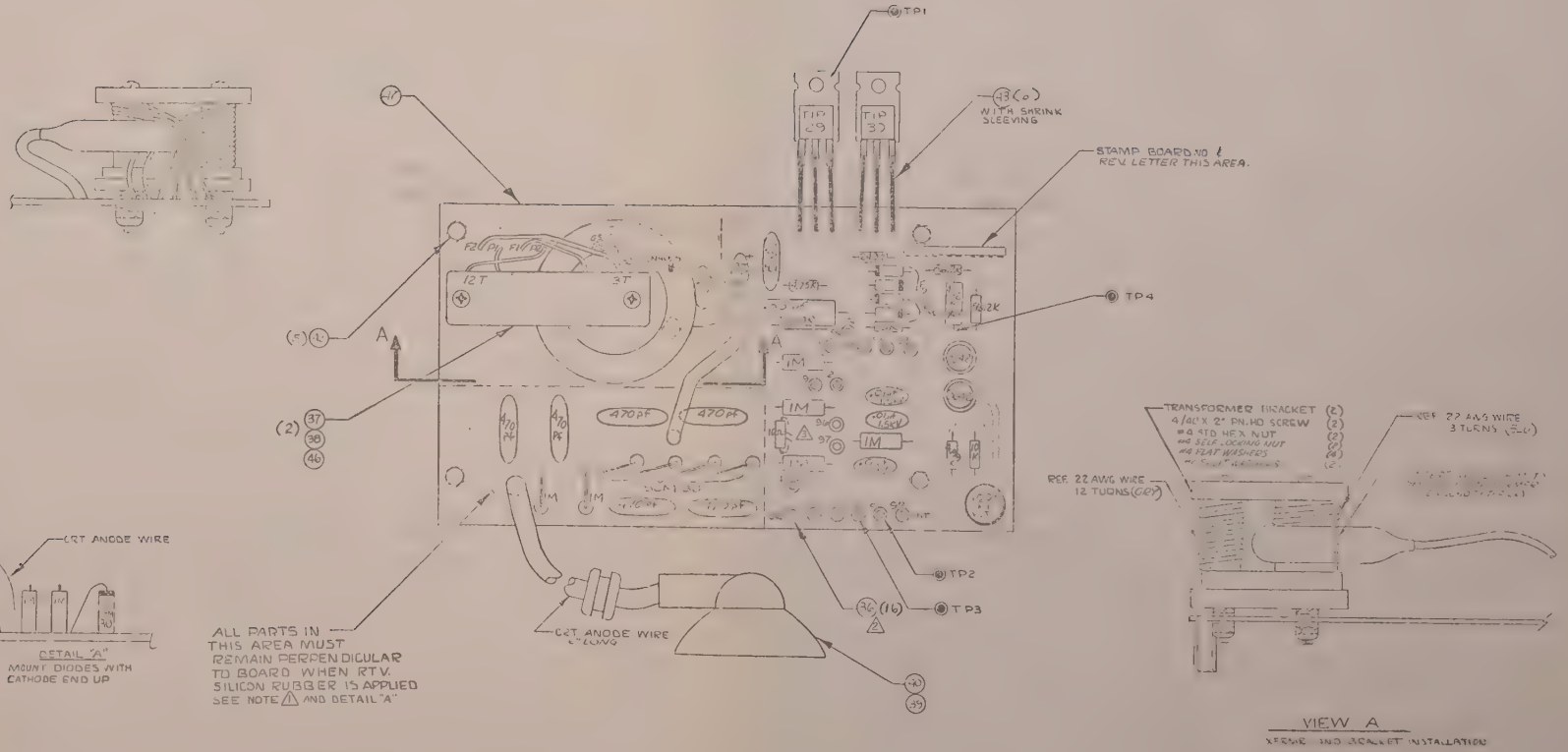
(2) APPLY SILICON RUBBER (ITEM 41) TO INDICATED AREA. MINIMUM THICKNESS 1/16" ON BOTH SIDES OF CIRCUIT BOARD. ENCAPSULATE ALL COMPONENTS; HEAVY BUILD UP REQUIRED AT BASE OF 6KV OUTPUT (CRT ANODE WIRE).

NOTE: UNLESS OTHERWISE SPECIFIED

OPTION C

WAVETEK

ASSEMBLY HIGH VOLTAGE SUPPLY/ COMPARE (A3) ASSEMBLY



3 CUT ETCH AS INDICATED AT 100Ω RESISTOR, DRILL #60 HOLES, INSTALL RESISTOR - SOLDER LEADS TO EACH SIDE OF CUT ETCH (SEE SHEET 1 FOR DETAILS)

2 INSTALL AMP PINS NEARSIDE - KEEP AMP PINS PERPENDICULAR TO BOARD.

1 APPLY SILICON RUBBER (ITEM 41) TO AREA INDICATED (PHANTOM LINES) MINIMUM THICKNESS 1/16 ON BOTH SIDES OF CIRCUIT BOARD. ENCAPSULATE ALL COMPONENTS - HEAVY BUILDUP REQUIRED AT BASE OF 6KV OUTPUT. (CRT ANODE WIRE)

WAVETEK

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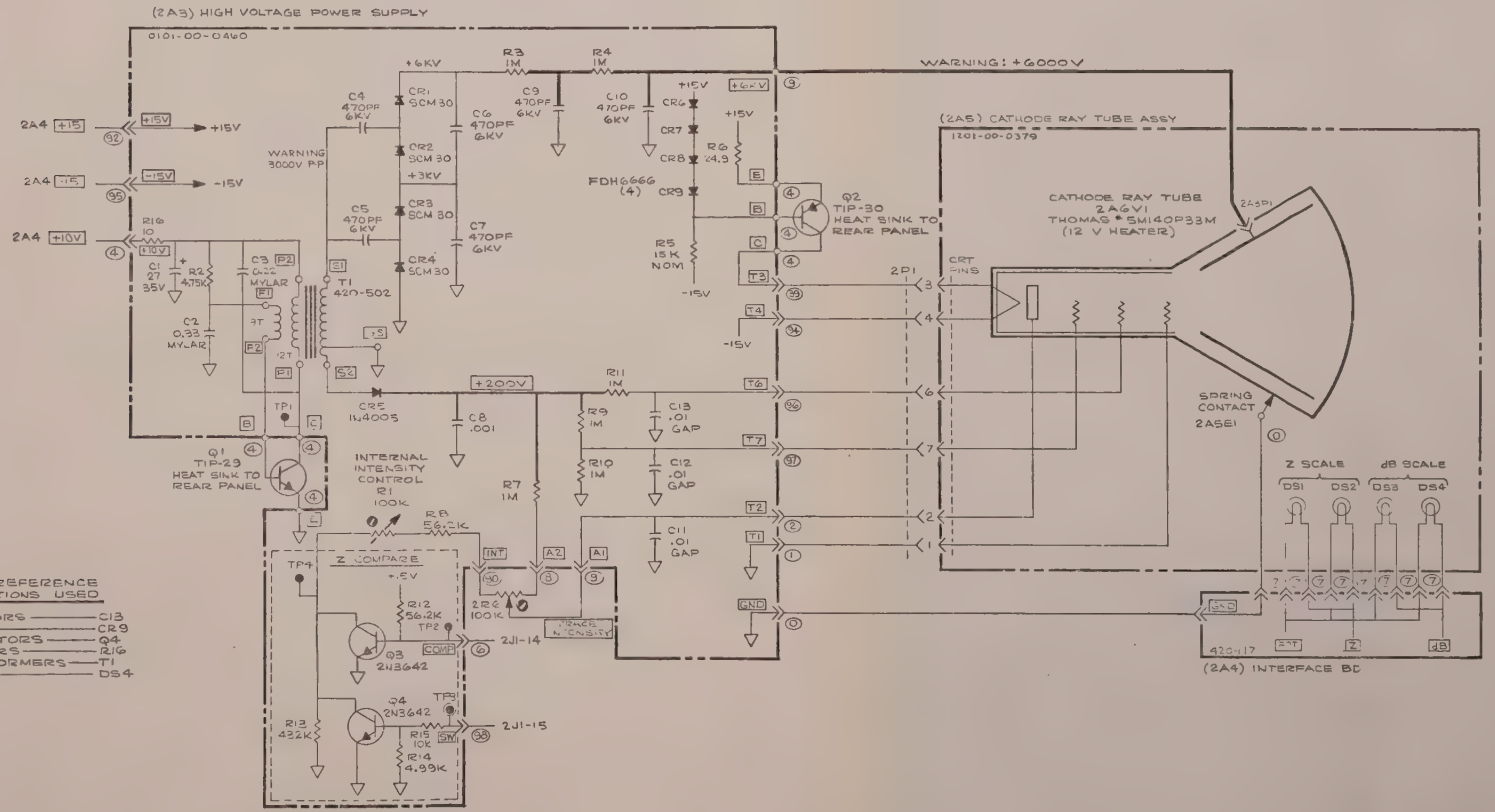

LAST REFERENCE DESIGNATIONS USED

CAPACITORS	C13
DIODES	CR9
TRANSISTORS	Q4
RESISTORS	R16
TRANSFORMERS	T1
LAMPS	DS4

ALL CAPACITOR VALUES ARE IN MICROFARADS (μf).
ALL RESISTOR VALUES ARE IN OHMS (Ω).
NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND SHARP EDGES	DRAWN R. REEDMAN	DATE 5-7-M	WAVETEK SAN DIEGO, CALIFORNIA
MATERIAL			TITLE: SCHEMATIC DIAGRAM, HIGH VOLTAGE/Z COMPARE BD (2A3) RECEIVER
FINISH WAVETEK PROCESS	RELEASE APPROV	TOLERANCE UNLESS OTHERWISE SPECIFIED XX ± .010 ANGLES ± 1° XXX ± .030	MODEL NO 425/420
		DRAWING SCALE DWG SCALE	DWG NO 0103-00-0460 REV D
			CODE IDENT 23338 SHEET 1 OF 1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
NONE	ASSY DRWG,H.V.	0101-00-0460	WVTK	0101-00-0460	1
NONE	SCHEMATIC,H.V.	0103-00-0460	WVTK	0103-00-0460	1
46 46A	BRKT	420-348	WVTK	1400-00-4573	2
C8	CAP,CER,.001MF,1KV	DD-102	ARCO	1500-01-0211	1
C11 C12 C13	CAP,CER,.01MF,1KV	GAP-103	CRL	1500-01-0309	3
C10 C4 C5 C6 C7 C9	CAP,CER,470PF,6KV	60GA-T47	SPRAG	1500-04-7109	6
C3	CAP,MYLR,.22MF,50V	601PE	TRW	1500-42-2413	1
C2	CAP,MYLR,.33MF,200V	X663F .33MF	TRW	1500-43-3414	1
C1	CAP,TANT,27MF,35V	196D276X0035FB	SPRAG	1500-72-7602	1
47	H.V. BD	420-112	WVTK	1700-00-0203	1
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	12
NONE	STANDOFF,SWAGE .375 H,.250 HEX 6-32,.062 MAT'L	1531B-3/8	USECO	2800-02-0002	2
39	GROMMET,RUBBER	2175	SMITH	2800-10-0003	1
NONE	TRANSIPAD	10123N	METRS	2800-11-0003	2
NONE	LOCK NUT	21FA-440	SPS	2800-16-0004	2
R1	POT,TRIM,100K	91AR100K	BECK	4600-01-0402	1
515	RES,MF,1/8W,1%,10K	RN55D-1002F	TRW	4701-03-1002	1

WAVETEK PARTS LIST

TITLE
PCA,H.V.

ASSEMBLY NO.
1100-00-0460

REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
R16	RES,MF,1/8W,1%,10	RN55D-10R0F	TRW	4701-03-1009	1
R5	RES,MF,1/8W,1%,15K	RN55D-1502F	TRW	4701-03-1502	1
R6	RES,MF,1/8W,1%,24.9	RN55D-24R9F	TRW	4701-03-2499	1
R2	RES,MF,1/8W,1%,4.75K	RN55D-4751F	TRW	4701-03-4751	1
R14	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	1
R12 R8	RES,MF,1/8W,1%,56.2K	RN55D-5622F	TRW	4701-03-5622	2
R10 R11 R3 R4 R7 R9	RES,MF,1/4W,1%,1M	RN60D-1004F	TRW	4701-13-1004	6
R13	RES,MF,1/4W,1%,432K	RN60D-4323F	TRW	4701-13-4323	1
CR1 CR2 CR3 CR4	DIODE	SCM-30	SEMTC	4801-02-0030	4
CR5	DIODE	1N4005	MOT	4806-01-4005	1
CR6 CR7 CR8 CR9	DIODE	FD-6666	FAIR	4807-02-6666	4
Q3 Q4	TRANS	2N3642	FAIR	4901-03-6420	2
Q1	TRANS	TIP-29	TI	4902-00-0290	1
Q2	TRANS	TIP-30	TI	4902-00-0300	1
28	FLYBACK TRANSFORMER	420-502	WVTK	5600-00-0004	1
40	HV CABLE	C8-508R	INTIM	6009-90-0002	1

WAVETEK PARTS LIST

TITLE
PCA,H.V.

ASSEMBLY NO.
1100-00-0460

REV

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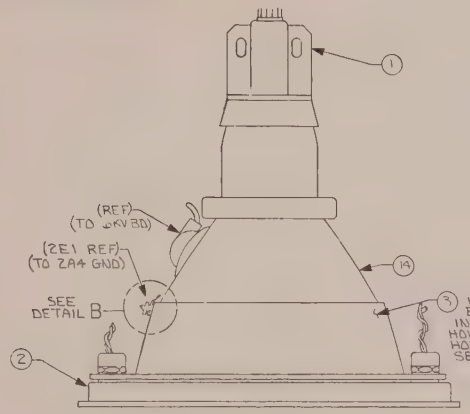
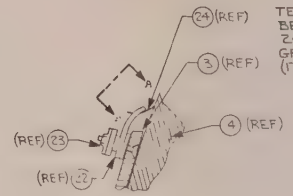
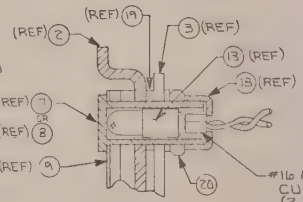




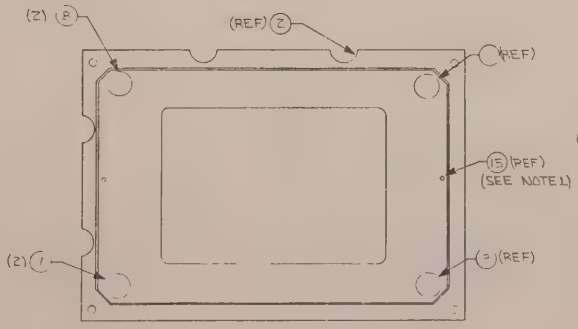
DETAIL B
SCALE: 2/1

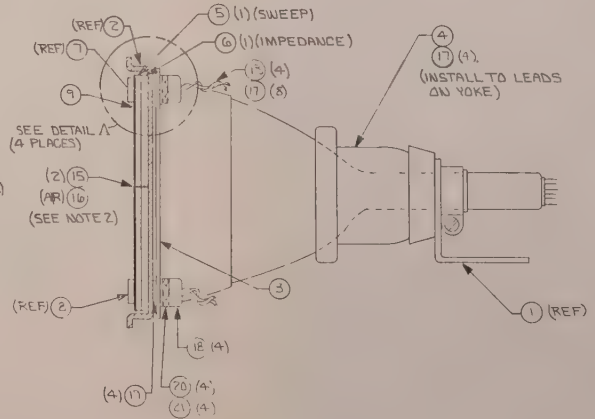
TENSION SHOULD BE ON WIRE (ITEM 24) SO IT WILL GROUND TO CRT (ITEM 14)

VIEW A-A



DETAIL A
SCALE: 2/1





2. COVER 1 SIDE WITH CONTINUOUS LAYER OF (ITEM 1) TO ASSURE TAPE OVERLAP ENDS.
1. INSTALL PINS, (ITEM 15) THRU BOTH GRADICULES.

NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN ADKINS	WAVETEK	
MATERIAL	TOLERANCE UNLESS OTHERWISE SPECIFIED .XX ± .010 ANGLES ± 1° .XXX ± .005	ASSEMBLY CATHODE RAY TUBE (7A5) RECEIVER	
FINISH WAVETEK SPEC 1.X	DO NOT SCALE DWG	SCALE 1:1	SIZE A	DWG NO 0102-00-0379	REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/A
NONE	ASSY DRWG,CRT	0102-00-0379	WVTK	0102-00-0379	1
NONE	SCHEMATIC,H.V.	0103-00-0460	WVTK	0103-00-0460	1
1	BRKT	420-333	WVTK	1400-00-4483	1
2	BEZEL	420-334	WVTK	1400-00-4490	1
NONE	HOUSING,LAMP	420-336	WVTK	1400-00-4500	2
NONE	HOUSING,LAMP	420-337	WVTK	1400-00-4510	2
3	HOUSING,TUBE	420-338	WVTK	1400-00-4520	1
9	SCREEN REF:3200-99-0001	420-343	WVTK	1400-00-4530	1
6	SCALE,IMPEDENCE	425-304	WVTK	1400-00-6419	1
5	SCALE,SWEEP	425-303	WVTK	1400-00-6429	1
NONE	POLYESTER TAPE	850	3M	1600-02-0003	50
22	TERM,LOCK LUG	1414-4	SMITH	2100-04-0008	1
NONE	CONN	60598-8	AMP	2100-05-0017	12
NONE	LAMP	L28/40	MURA	2400-02-0017	4
NONE	END BUMPER	LC-9375	ROYAL	2800-08-0003	4
23	LOCK NUT	21FA-440	SPS	2800-16-0004	1
NONE	NYLON FLAT WASHER	2264-N-385	AMTOM	2800-28-0005	4

WAVETEK
PARTS LIST

TITLE
ASSY,CRT

ASSEMBLY NO.
1206-00-0530

PAGE: 1

REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
24	SPRING WIRE	PBW.020X1.5	WVTK	2800-31-0002	1
4	YOKE	420-503	WVTK	5600-00-0005	1
14	CRT	5M140P33M	THOMS	5700-00-0001	1

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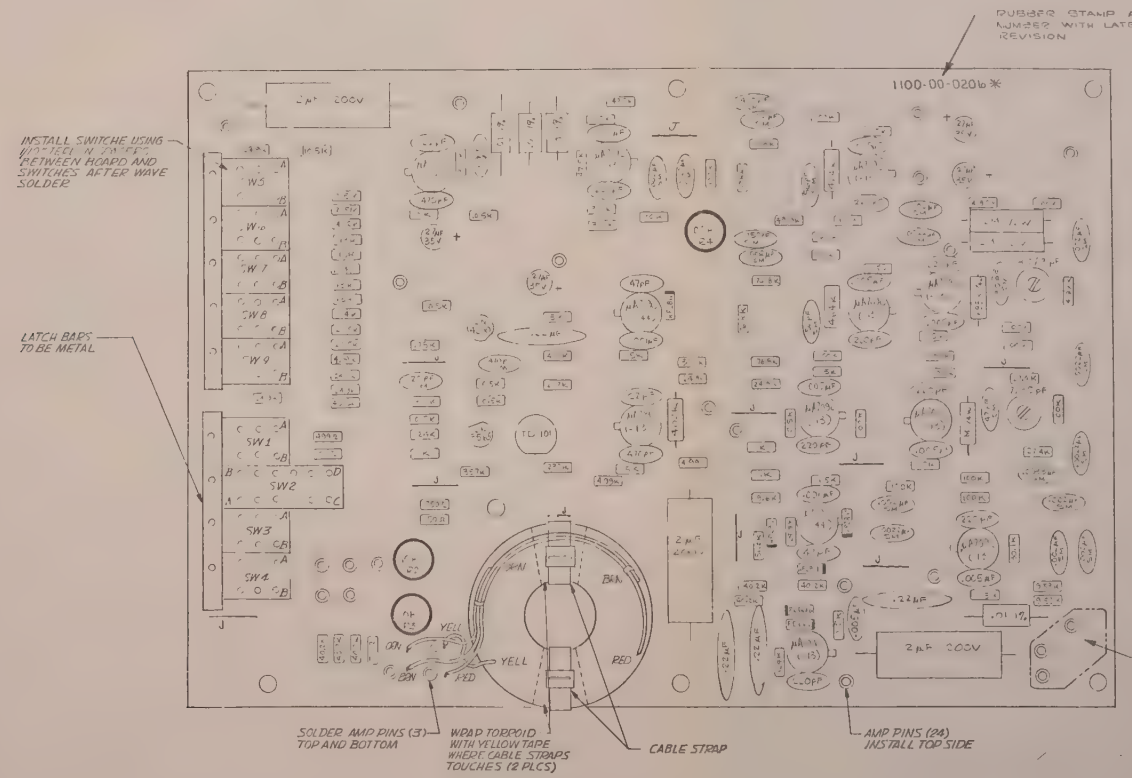
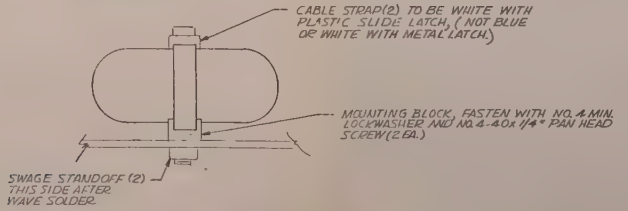



CABLE STRAP(2) TO BE WHITE WITH PLASTIC SLIDE LATCH, (NOT BLUE OR WHITE WITH METAL LATCH.)
MOUNTING BLOCK, FASTEN WITH NO. 4-MIN. LOCKWASHER AND NO.4-40x 1/4" PAN HEAD SCREW(2 EA.)
SWAGE STANDOFF (2) THIS SIDE AFTER WAVE SOLDER.

NOTE UNLESS OTHERWISE SPECIFIED

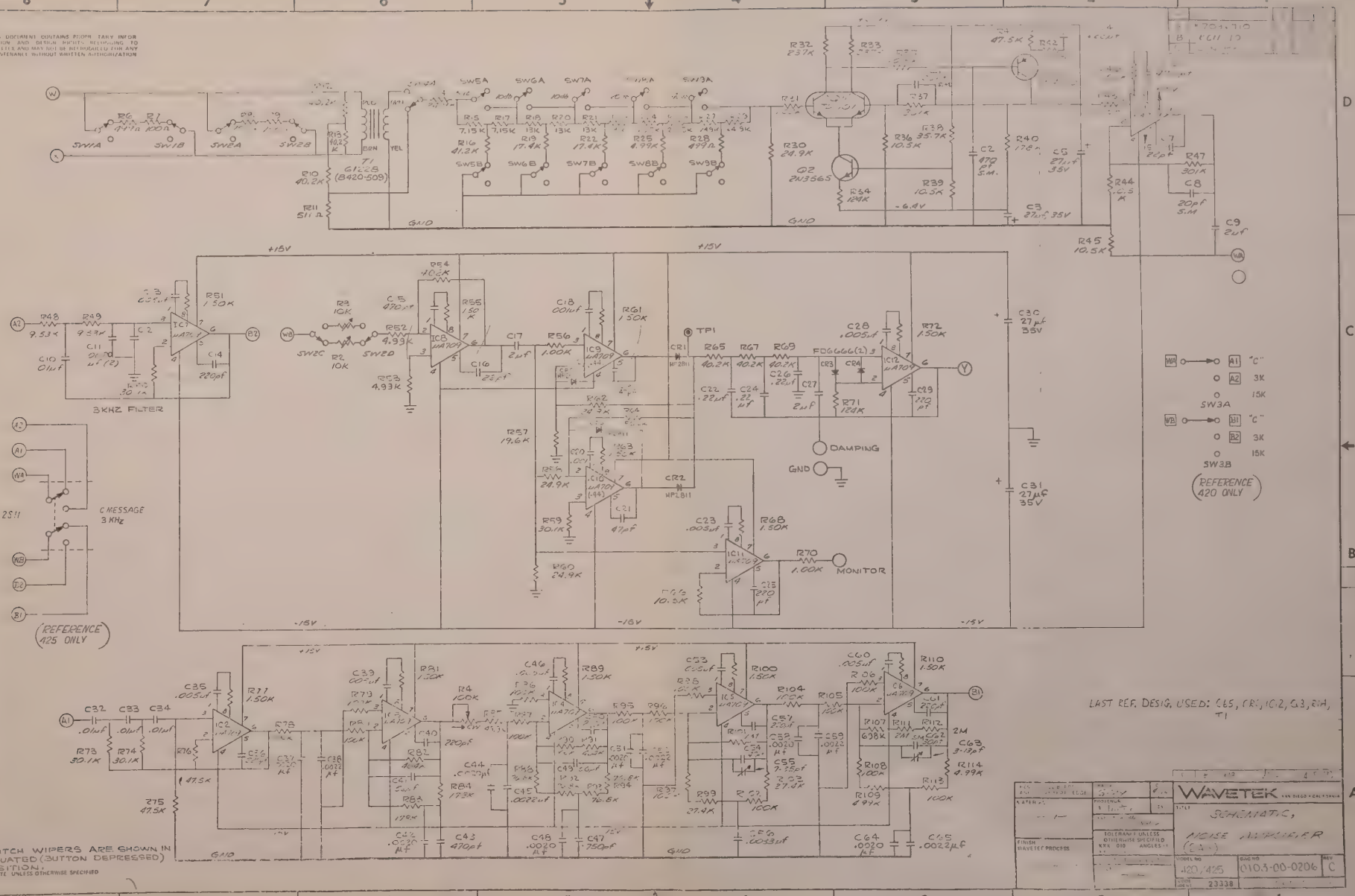
REMOVE ALL BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH WAVETEK UNLESS
DRAWN E. ICKOWAN
TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ±10 ANGLES ±1°

WAVETEK SAN DIEGO, CALIFORNIA

TITLE ASSEMBLY, NOISE AMPLIFIER & MESSAGE FILTER

SIZE K

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND DESIGN RIGHTS PERTAINING TO WAVETEK AND MAY NOT BE REPRODUCED FOR ANY MAINTENANCE WITHOUT WRITTEN AUTHORIZATION



SWITCH WIPERS ARE SHOWN IN ACTUATED (BUTTON DEPRESSED) POSITION.
NOTE UNLESS OTHERWISE SPECIFIED

LAST REF. DESIG. USED: C65, CR2, IC2, Q3, R114, T1

WAVETEK	SCHEMATIC, NOISE AMPLIFIER (3 of 3)		
MATERIAL	SPECIFIED		
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED .XX .010 ANGLES ±1°	MODEL NO. 420, 425	DWG NO. 010-3-00-0206 REV. C
		SCALE NONE	SHEET 23338

EFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
[illegible]	ASSY DRWG,NOISE AMP	0101-00-0206	WVTK	0101-00-0206	1
[illegible]	SCHEMATIC,NOISE AMP	0103-00-0206	WVTK	0103-00-0206	1
18 C20	CAP,CER,.001MF,1KV	DD-102	ARCO	1500-01-0211	2
16 C7	CAP,CER,22PF,1KV	DD-220	ARCO	1500-02-2011	2
14 C25 C29 C36 C40 50 C57 C61	CAP,CER,220PF,1KV	DD-221	ARCO	1500-02-2111	8
19 C21	CAP,CER,47PF,1KV	DD-470	ARCO	1500-04-7011	2
15 C6	CAP,CER,470PF,1KV	DD-471	ARCO	1500-04-7111	2
13 C23 C28 C35 C39 46 C53 C60	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	8
1 C8	CAP,MICA,20PF,500V	DM15-200J	ARCO	1500-12-0000	2
11 C12 C37 C42 C44 48 C51 C58 C64	CAP,MICA,2000PF,500V	DM19-202J	ARCO	1500-12-0200	9
38 C45 C52 C59 C65	CAP,MICA,2200PF,500V	DM19-222J	ARCO	1500-12-2200	5
62	CAP,MICA,30PF,500V	DM15-300J	ARCO	1500-13-0000	1
56	CAP,MICA,3300PF,500V	DM19-332J	ARCO	1500-13-3200	1
54	CAP,MICA,47PF,500V	DM15-470J	ARCO	1500-14-7000	1
2 C43	CAP,MICA,470PF,500V	DM15-471J	ARCO	1500-14-7100	2
41 C49	CAP,MICA,56PF,500V	DM15-560J	ARCO	1500-15-6000	2

WAVETEK
PARTS LIST

TITLE
NOISE AMP

ASSEMBLY NO.
1100-00-0206

REV
J

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/
C47	CAP,MICA,750PF,300V	DM15-751J	ARCO	1500-17-5100	1
C10 C32 C33 C34	CAP,POLYC,.01MF,100V	PA2B103F	ELCUB	1500-41-0304	4
C17 C27 C9	CAP,MYLR,2MF,200V	2MF205K	AMRAD	1500-42-0504	3
C22 C24 C26 C4	CAP,MYLR,.22MF,50V	601PE	TRW	1500-42-2413	4
C63	VARI,3.5-13PF,250V	7S-TRIKO-02 3.5/13PF	TRIKO	1500-51-3000	1
C55	VARI,7-35PF,250V	7S-TRIKO-02 7/35 PF	TRIKO	1500-53-5000	1
C3 C30 C31 C5	CAP,TANI,27MF,35V	196D276X0035FB	SPRAG	1500-72-7602	4
115	NOISE	420-115	WVTK	1700-00-0206	1
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	24
NONE	TIE STRAP	SST-1.5M	PANDT	2800-00-0003	4
NONE	TIE MOUNT	TM-256C	PANDT	2800-00-0005	2
NONE	STANDOFF,SWAGE .125 H,.250 DIA 4-40,.062 MAT'L	9531B-0440-3A	AMTOM	2800-03-0004	2
R2 R3	POT,TRIM,10K	91AR10K	BECK	4600-01-0315	2
R4	POT,TRIM,100K	91AR100K	BECK	4600-01-0402	1
R7	RES,MF,1/8W,1%,100	RN55D-1000F	TRW	4701-03-1000	1
R31 R56 R70	RES,MF,1/8W,1%,1K	RN55D-1001F	TRW	4701-03-1001	3

WAVETEK
PARTS LIST

TITLE
NOISE AMP

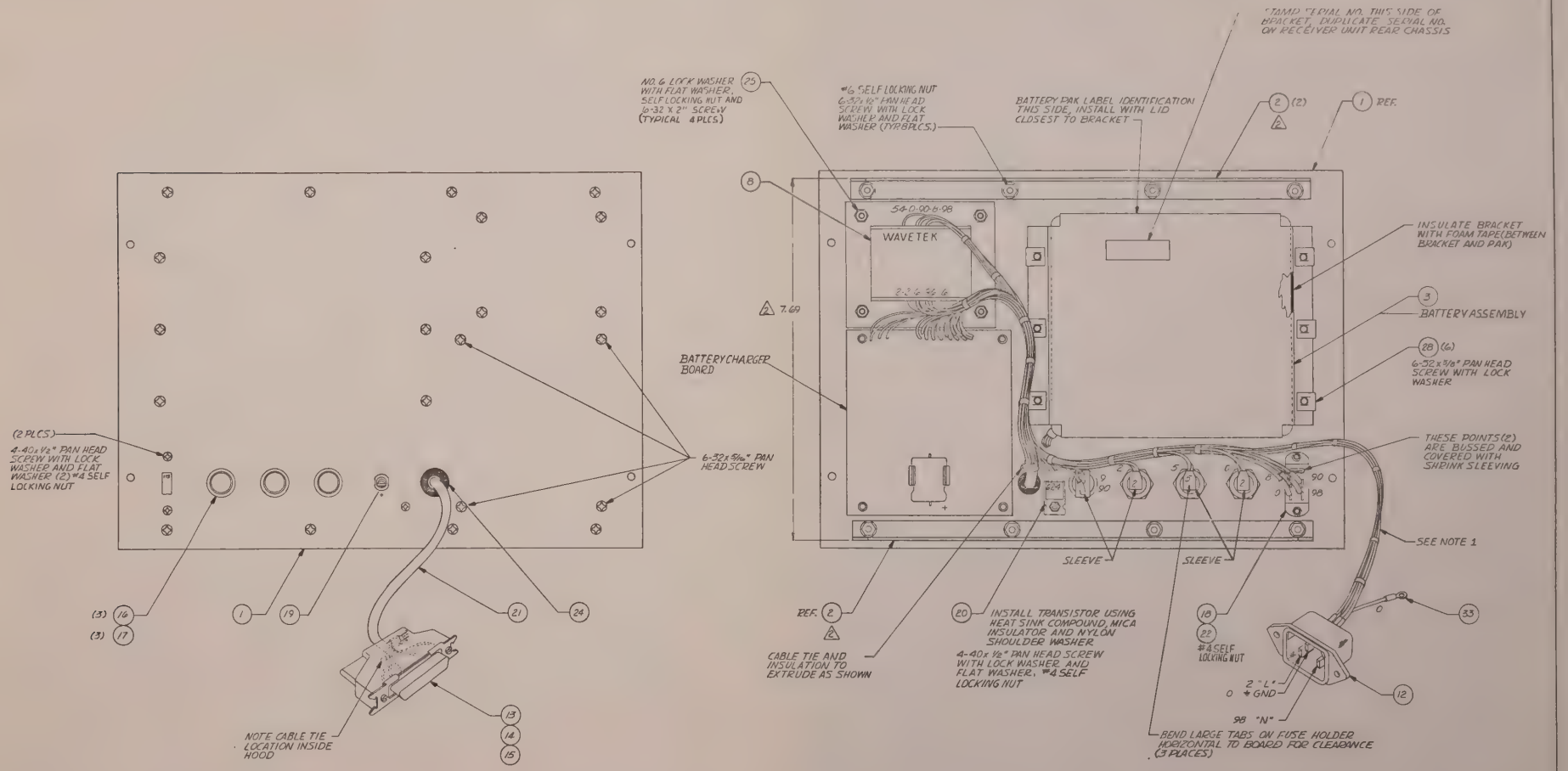
ASSEMBLY NO.
1100-00-0206

REV
J

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
R102 R104 R105 R106 R108 R113 R78 R79 R80 R86 R87 R90 R95 R96 R97 R98	RES,MF,1/8W,1%,100K	RN55D-1003F	TRW	4701-03-1003	16
R35 R36 R39 R43 R44 R45 R66	RES,MF,1/8W,1%,10.5K	RN55D-1052F	TRW	4701-03-1052	7
R34 R71	RES,MF,1/8W,1%,124K	RN55D-1243F	TRW	4701-03-1243	2
R18 R20 R21 R23	RES,MF,1/8W,1%,13K	RN55D-1302F	TRW	4701-03-1302	4
R9	RES,MF,1/8W,1%,150	RN55D-1500F	TRW	4701-03-1500	1
R100 R110 R46 R51 R55 R61 R63 R68 R72 R77 R81 R89	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	12
R42	RES,MF,1/8W,1%,15K	RN55D-1502F	TRW	4701-03-1502	1
R19 R22	RES,MF,1/8W,1%,17.4K	RN55D-1742F	TRW	4701-03-1742	2
R40 R83 R84	RES,MF,1/8W,1%,178K	RN55D-1783F	TRW	4701-03-1783	3
R57	RES,MF,1/8W,1%,19.6K	RN55D-1962F	TRW	4701-03-1962	1
R24 R26	RES,MF,1/8W,1%,20.5K	RN55D-2052F	TRW	4701-03-2052	2
R32 R33	RES,MF,1/8W,1%,237K	RN55D-2373F	TRW	4701-03-2373	2
R14 R27 R29 R30 R58 R60 R62	RES,MF,1/8W,1%,24.9K	RN55D-2492F	TRW	4701-03-2492	7
R103 R99	RES,MF,1/8W,1%,27.4K	RN55D-2742F	TRW	4701-03-2742	2

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
R50 R59 R73 R74	RES,MF,1/8W,1%,30.1K	RN55D-3012F	TRW	4701-03-3012	4
R37 R47	RES,MF,1/8W,1%,301K	RN55D-3013F	TRW	4701-03-3013	2
R38	RES,MF,1/8W,1%,35.7K	RN55D-3572F	TRW	4701-03-3572	1
R10 R12 R13 R65 R67 R69	RES,MF,1/8W,1%,40.2K	RN55D-4022F	TRW	4701-03-4022	6
R16	RES,MF,1/8W,1%,41.2K	RN55D-4122F	TRW	4701-03-4122	1
R41 R75 R76	RES,MF,1/8W,1%,47.5K	RN55D-4752F	TRW	4701-03-4752	3
R28 R6	RES,MF,1/8,1%,499	RN55D-4990F	TRW	4701-03-4990	2
R109 R114 R25 R52 R53	RES,MF,1/8W,1%,4.99K	RN55D-4991F	TRW	4701-03-4991	5
R85	RES,MF,1/8W,1%,49.9K	RN55D-4992F	TRW	4701-03-4992	1
R11	RES,MF,1/8W,1%,511	RN55D-5110F	TRW	4701-03-5110	1
R64	RES,MF,1/8W,1%,56.2K	RN55D-5622F	TRW	4701-03-5622	1
R15 R17	RES,MF,1/8W,1%,7.15K	RN55D-7151F	TRW	4701-03-7151	2
R8	RES,MF,1/8W,1%,750	RN55D-7500F	TRW	4701-03-7500	1
R88 R92 R93 R94	RES,MF,1/8W,1%,76.8K	RN55D-7682F	TRW	4701-03-7682	4
R48 R49	RES,MF,1/8W,1%,9.53K	RN55D-9531F	TRW	4701-03-9531	2
R101	RES,MF,1/4W,1%,1M	RN60D-1004F	TRW	4701-13-1004	1
R54	RES,MF,1/4W,1%,402K	RN60D-4023F	TRW	4701-13-4023	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
R82 R91	RES,MF,1/4W,1%,464K	RN60D-4643F	TRW	4701-13-4643	2
R107	RES,MF,1/4W,1%,698K	RN60D-6983F	TRW	4701-13-6983	1
R111 R112	RES,MF,1/2W,1%,2M	RN65D-2004F	TRW	4701-23-2004	2
CR3 CR4	DIODE	FD-6666	FAIR	4807-02-6666	2
CR1 CR2 CR5 CR6	DIODE	5082-2811	HP	4809-02-2811	4
Q2	TRANS	2N3565	FAIR	4901-03-5650	1
Q3	TRANS	2N4250	FAIR	4901-04-2500	1
Q1	TRANS	TD-101	SPRAG	4902-00-1010	1
109	SWITCH ASSY PB	420-404	WVTK	5103-00-0016	1
108	SWITCH ASSY PB	420-405	WVTK	5103-00-0017	1
NONE	BUTTON	J-52305-BLACK	CRL	5103-04-0003	9
T1	TRANSFORMER	420-509	WVTK	5600-00-0006	1
IC1 IC11 IC12 IC2 IC3 IC4 IC5 IC6 IC7 IC8	IC,CLASS I,MA-709 QTY:1:7000-07-0900	130-501-13	WVTK	7200-00-0005	10
IC10 IC9	IC,CL I SPEC,MA-709 QTY:1:7200-00-0005	750-501-44	WVTK	7200-00-0007	2


STAMP SERIAL NO. THIS SIDE OF BRACKET, DUPLICATE SERIAL NO. ON RECEIVER UNIT REAR CHASSIS
NO. 6 LOCK WASHER WITH FLAT WASHER, SELF LOCKING NUT AND 6-32 X 2" SCREW (TYPICAL 4 PLCS.)
#6 SELF LOCKING NUT 6-32 x 5/16" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (TYP 8 PLCS.)
BATTERY PAK LABEL IDENTIFICATION THIS SIDE, INSTALL WITH LID CLOSEST TO BRACKET
(2) REF.
INSULATE BRACKET WITH FOAM TAPE (BETWEEN BRACKET AND PAK)
BATTERY ASSEMBLY
(6) 6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER
THESE POINTS (2) ARE BUSSED AND COVERED WITH SHRINK SLEEVING
SEE NOTE 1
BATTERY CHARGER BOARD
WAVETEK
7.69
(2 PLCS.) 4-40 x 1/2" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (2) #4 SELF LOCKING NUT
6-32 x 5/16" PAN HEAD SCREW
(3) (3)
NOTE CABLE TIE LOCATION INSIDE HOOD
REF.
CABLE TIE AND INSULATION TO EXTRUDE AS SHOWN
INSTALL TRANSISTOR USING HEAT SINK COMPOUND, MICA INSULATOR AND NYLON SHOULDER WASHER
4-40 x 1/2" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER, #4 SELF LOCKING NUT
SLEEVE
SLEEVE
#4 SELF LOCKING NUT
2 "L"
GND
98 "N"
BEND LARGE TABS ON FUSE HOLDER HORIZONTAL TO BOARD FOR CLEARANCE (3 PLACES)

2 ASSEMBLE ITEM 2 BY PUSHING TOWARDS CENTER WHILE FASTENING

1. ASSEMBLE HARNESS WITH 425 PS RCVR HARNESS BOARD INSERT ITEM 21 THRU ITEM 24 PRIOR TO ASSEMBLING ITEM 13

NOTES: UNLESS OTHERWISE SPECIFIED.

DRAWN D. COOPER 6-22-76	WAVETEK	
R. T. Warner	ASSEMBLY POWER SUPPLY (RECEIVER)	
R. T. Warner	MODEL 425	0102 00-0529
		SHEET 1 OF 1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
NONE	ASSY DRWG,PWR SUPPLY	0102-00-0529	WVTK	0102-00-0529	1
NONE	SCHEMATIC,RECEIVER	0104-00-0527	WVTK	0104-00-0527	1
8	TRANSFORMER	420-527	WVTK	1204-00-0487	1
3	HOLDER,BAT	420-324	WVTK	1400-00-4393	1
NONE	BAR	420-347	WVTK	1400-00-4563	2
1	FT.PANEL	425-302	WVTK	1400-00-6439	1
13	CONN	DBC-25S	CINCH	2100-02-0002	1
14	CONN SHELL	DB51212-1	CINCH	2100-02-0003	1
12	RECEPT,POWER	EAC-301	SWCFT	2100-03-0005	1
33	TERM,LOCK LUG	1414-4	SMITH	2100-04-0008	1
15	SPRING LATCH ASSY	D110278	CAN	2100-07-0003	1
NONE	FUSE,250V,1/2A,SB	313.500	LITFU	2400-05-0010	3
NONE	FUSE HOLD	031.1653/031.1666	SCHUR	2400-05-0012	3
NONE	SPACER .562 H,.250 DIA .140 DIA THRU	8713	SMITH	2800-04-0004	4
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	4
24	GROMMET,RUBBER	91117	SMITH	2800-10-0004	1
NONE	LOCK NUT	21FA-440	SPS	2800-15-0004	3

WAVETEK
PARTS LIST

TITLE
PCA,POWER SUPPLY

ASSEMBLY NO.
1101-00-0529

REV

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK P.N.	QTY.
NONE	LOCK NUT	21FA-632	SPS	2800-16-0005	12
20	TRANS	TIP-30	TI	4902-00-0300	1
18	SWITCH ASSY SLIDE	46256-LF	SWCFT	5105-00-0002	1
22	SOLDER GUARD	46256-LF-SG	SWCFT	5105-09-0001	1
19	SWITCH,TOGGLE	7101 P3DCQN	C&K	5106-00-0003	1
NONE	CABLE,12COND,22GA	8457	BELDN	6001-70-0004	2

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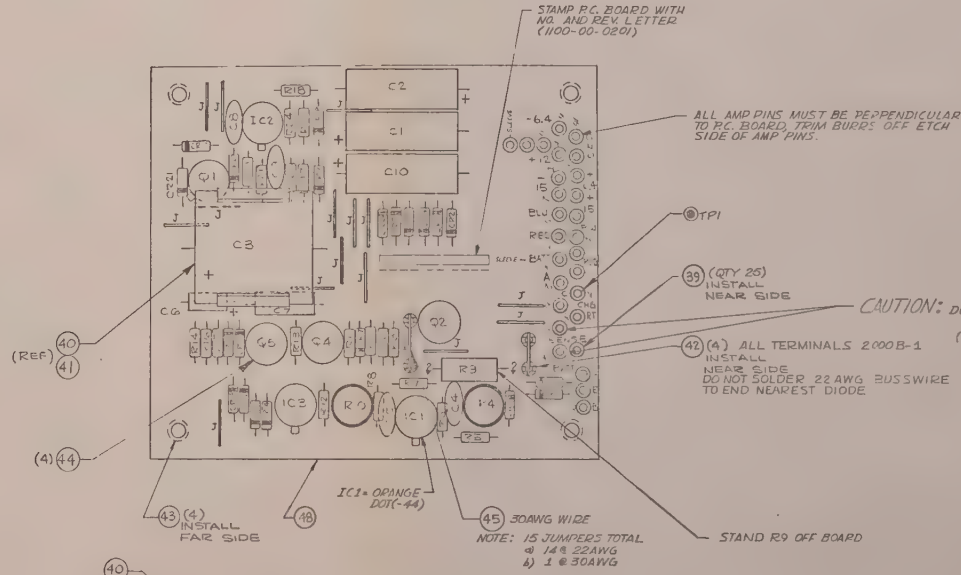
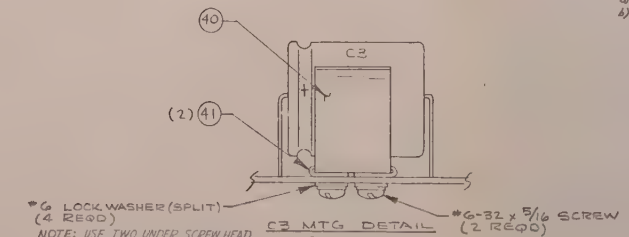


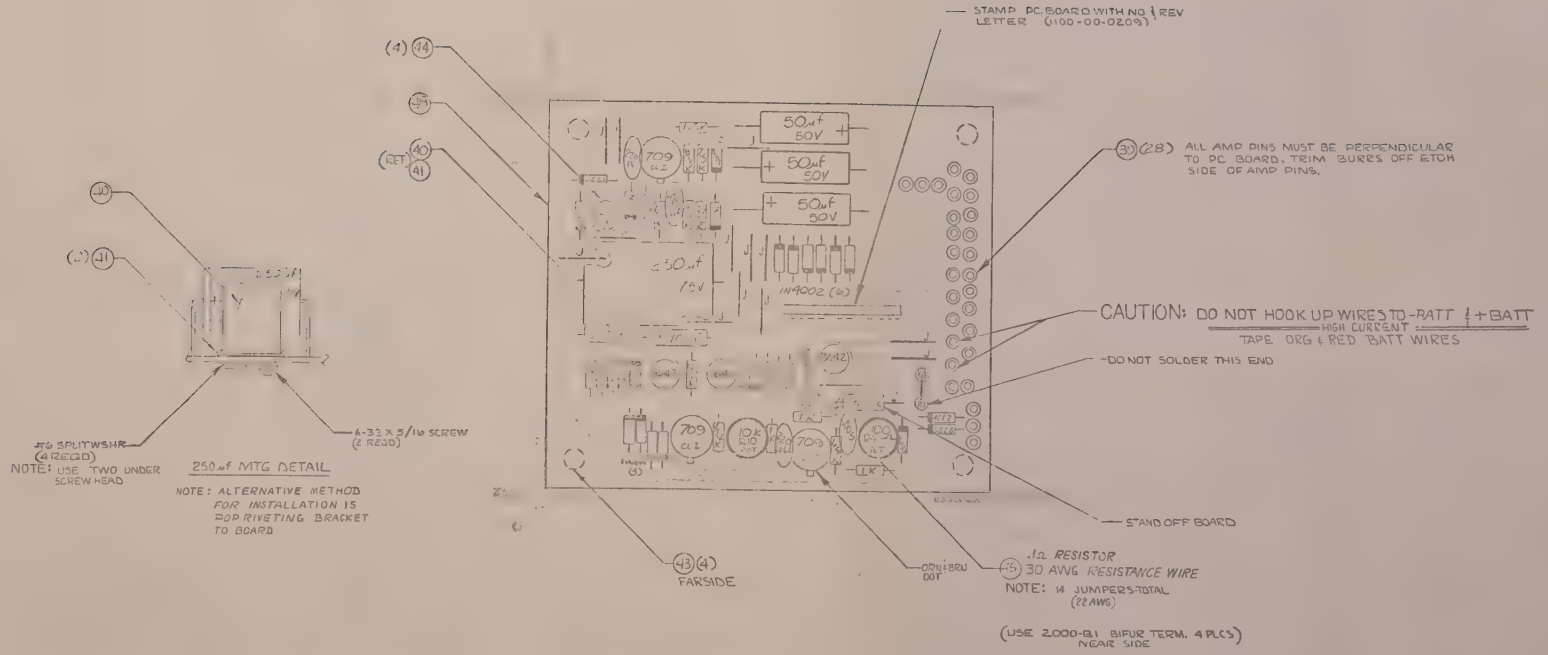

(40)
C3
(2) (41)
*6 LOCK WASHER (SPLIT) (4 REQD)
NOTE: USE TWO UNDER SCREW HEAD, TO INSURE THAT SCREWS DO NOT CONTACT CAPACITOR
*6-32 x 5/16 SCREW (2 REQD)

C3 MTG DETAIL

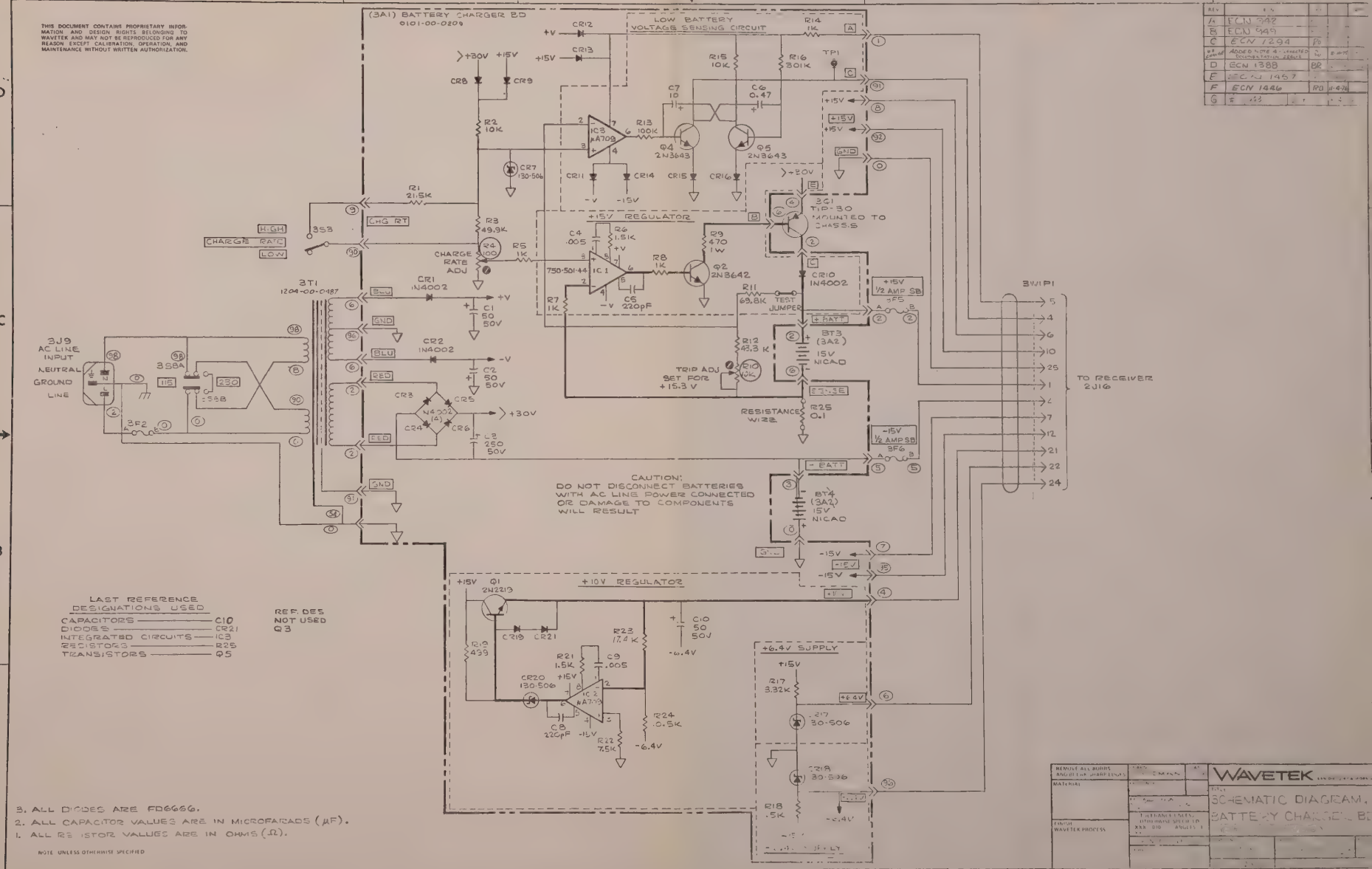
SEE SHEET 2

NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN	DATE	WAVETEK SAN DIEGO, CALIFORNIA
MATERIAL	PROJECTION		TITLE ASSEMBLY BATTERY CHARGER BD (BA1) RECEIVER
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED		MODEL NO 420/425 DWG NO 0001-00-0201 REV
	DO NOT SCALE DWG		SHEET 1 OF 2



	DRAWN SO FIFER	WAVETEK
		TITLE ASSEMBLY BATTERY CHARGER BOARD (BAT)



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REV			
A	ECN 942		
B	ECN 949		
C	ECN 1294	PD	
D	ECN 1388	BR	
E	ECN 1457		
F	ECN 1446	RD	11-4-76
G			

WAVETEK

SCHEMATIC DIAGRAM, BATTERY CHARGER BD

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/P
NONE	ASSY DRWG,BATT CHARG	0101-00-0209	WVTK	0101-00-0209	1
NONE	SCHEMATIC,BATT CHARG	0103-00-0209	WVTK	0103-00-0209	1
C5 C8	CAP,CER,220PF,1KV	DD-221	ARCO	1500-02-2111	2
C4 C9	CAP,CER,.005MF,50V	CK-502	CRL	1500-05-0210	2
C3	CAP,ELECT,250MF,75V	39D257G075JE4	SPRAG	1500-32-5103	1
C1 C10 C2	CAP,ELECT,50MF,50V	500D506G050DD7	SPRAG	1500-35-0003	3
C7	CAP,TANT,10MF,20V	150D106X9020B2	SPRAG	1500-71-0601	1
C6	CAP,TANT,.47MF,50V	150D474X9050B2	SPRAG	1500-74-7403	1
48	BATT CHGR	420-110	WVTK	1700-00-0201	1
NONE	TERM	2000B1	USECO	2100-05-0009	4
NONE	PIN,MALE	61182-2	AMP	2100-05-0020	20
40	CLAMP	4511-100-68-2C	SESTM	2800-00-0008	1
NONE	STANDOFF,SWAGE .250 H,.250 DIA 6-32,.062 MAT'L	1530B-1/4-11	USECO	2800-03-0001	4
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	4
NONE	TRANSIPAD	10123N	METRS	2800-11-0003	4
R4	POT,TRIM,100	91AR100	BECK	4600-01-0103	1
R10	POT,TRIM,10K	91AR10K	BECK	4600-01-0315	1

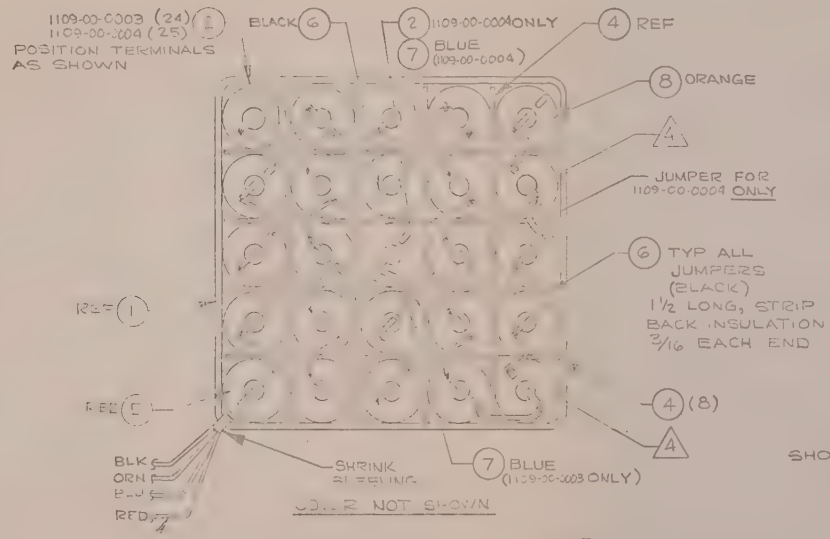
WAVETEK
PARTS LIST

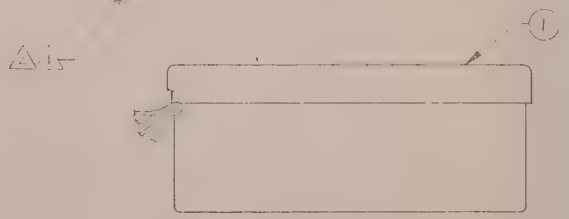
TITLE
BATT CHARGER-RCVR

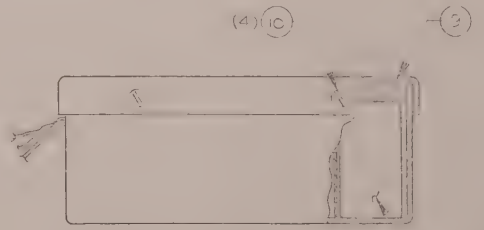
ASSEMBLY NO.
1100-00-0209

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/A
R9	RES,C,1W,5%,470	RC32GF-471	STKPL	4700-33-4700	1
R10 R5 R7 R8	RES,MF,1/8W,1%,1K	RN55D-1001F	TRW	4701-03-1001	4
R15 R2	RES,MF,1/8W,1%,10K	RN55D-1002F	TRW	4701-03-1002	2
R13	RES,MF,1/8W,1%,100K	RN55D-1003F	TRW	4701-03-1003	1
R24	RES,MF,1/8W,1%,10.5K	RN55D-1052F	TRW	4701-03-1052	1
R18 R21 R6	RES,MF,1/8W,1%,1.5K	RN55D-1501F	TRW	4701-03-1501	3
R23	RES,MF,1/8W,1%,17.4K	RN55D-1742F	TRW	4701-03-1742	1
R1	RES,MF,1/8W,1%,21.5K	RN55D-2152F	TRW	4701-03-2152	1
R16	RES,MF,1/8W,1%,301K	RN55D-3013F	TRW	4701-03-3013	1
R17	RES,MF,1/8W,1%,3.32K	RN55D-3321F	TRW	4701-03-3321	1
R12	RES,MF,1/8W,1%,43.2K	RN55D-4322F	TRW	4701-03-4322	1
R19	RES,MF,1/8,1%,499	RN55D-4990F	TRW	4701-03-4990	1
R3	RES,MF,1/8W,1%,49.9K	RN55D-4992F	TRW	4701-03-4992	1
R11	RES,MF,1/8W,1%,69.8K	RN55D-6982F	TRW	4701-03-6982	1
R22	RES,MF,1/8W,1%,7.5K	RN55D-7501F	TRW	4701-03-7501	1
CR17 CR20 CR7	DIODE,ZENER 6.2V	1N823A	NPC	4801-01-0823	3
CR1 CR10 CR2 CR3 CR4	DIODE	SCE-1	SPMT	4801-02-0001	

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
CR5 CR6					
CR11 CR12 CR13 CR14 CR15 CR16 CR19 CR21 CR8 CR9	DIODE	FD-6666	FAIR	4807-02-6666	10
CR18	DIODE,SEL,1N4581 QTY:1:4801-01-4581	420-505-84	WVTK	4898-00-0007	1
Q1	TRANS	2N2219A	NSC	4901-02-2191	1
Q2	TRANS	2N3642	FAIR	4901-03-6420	1
Q4 Q5	TRANS	2N3643	FAIR	4901-03-6430	2
NONE	RESISTANCE WIRE	30AWG	MANG	6009-90-0001	1
IC2 IC3	IC,CLASS I,MA-70- QTY:1:7000-07-0900	130-501-13	WVTK	7200-00-0001	1
IC1	IC,CL I SPEC,MA-709 QTY:1:7200-00-0005	750-501-44	WVTK	7200-00-0007	1







CAUTION

CHARGED BATTERY PACKS, DO NOT SHORT CIRCUIT BATTERY TERMINALS

4 BATTERIES ARE INSTALLED OPPOSITE DIRECTION TO PREVENT SHORTING (2 PLACES)

3 BATTERIES ARE COLOR CODED, ASSEMBLE BATTERY PACKS WITH LIKE COLORS OR COMBINATIONS INDICATED.

2 AMP PINS (4) ON ENDS OF WIRE HARNESS MUST BE COMPLETELY COVERED WITH SHRINK SLEEVING, OR EQUIV, BEFORE HARNESS IS CONNECTED TO BATTERY PACK.

1 1109-00-0003 – TRANSMITTER, 24 BATTERY ASSY. SEE XMTR, MAIN & BATTERY PACK, HARNESS BRD FOR WIRE LENGTHS

NOTES:

BATTERY COLOR COMBINATIONS

1. RED & BROWN
2. BROWN & BLU
3. BLU & GREEN
4. GRN & BLK/RED
5. BLK/RED & BLK/BRN

TOLERANCE (UNLESS OTHERWISE SPEC)	REV	ECN	BY	DATE
XXX ± .010				
XX ± .030				
ANGLES ± 0.33				
SCALE				
MATERIAL				

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/A
NONE	ASSY DRWG,BATT PACK	0102-00-0373	WVTK	0102-00-0373	1
1	BOX,BAT	420-525	WVTK	1400-00-4400	1
2	FOAM	420-351	WVTK	1400-00-4580	1
NONE	STRIP,SEPARATOR	420-452	WVTK	1400-00-4590	2
NONE	CONN	60598-8	AMP	2100-05-0017	1
NONE	BATTERY	GCR1.0ST	GE	4000-02-0001	25
NONE	WIRE,TEFLON,22GA	MIL-W-16878 BLACK	TNLIT	6000-22-2000	1
NONE	WIRE,TEFLON,22GA	MIL-W-16878 RED	TNLIT	6000-22-2002	1
NONE	WIRE,TEFLON,22GA	MIL-W-16878 ORANGE	TNLIT	6000-22-2003	1
NONE	WIRE,TEFLON,22GA	MIL-W-16878 BLUE	TNLIT	6000-22-2006	1

WAVETEK
PARTS LIST

TITLE
BATT PACK-RCVR

ASSEMBLY NO.
1109-00-0004

REV
F

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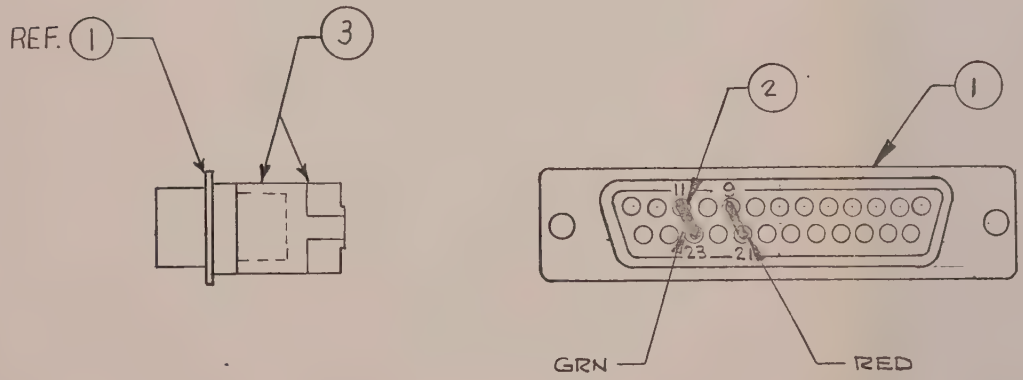
REV	ECN	BY	DATE	APP
A	#732	BA	1/19/79	



NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN B. REDMAN	DATE 6-5-78	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL —//	PROJ ENGR	6/25/79	TITLE INTERLOCK CONNECTOR (TRANSMITTER)
	RELEASE APPROV T. T. Turner		
FINISH WAVETEK PROCESS —//	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1° .XX ±.030		
	DO NOT SCALE DWG	MODEL NO. 420	DWG NO. 1207-00-0001 REV A
	SCALE 2/1	CODE IDENT 23338	SHEET 1 OF 1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/A
NONE	CONN	DBC-25P	CINCH	2100-02-0001	1
NONE	CONN SHELL	DBS1212-1	CINCH	2100-02-0003	1
NONE	SPRING LATCH ASSY	D110278	CAN	2100-07-0003	2

WAVETEK
PARTS LIST

TITLE
INTL CONN ASSY

ASSEMBLY NO.
1207-00-0001

PAGE: 1

REV

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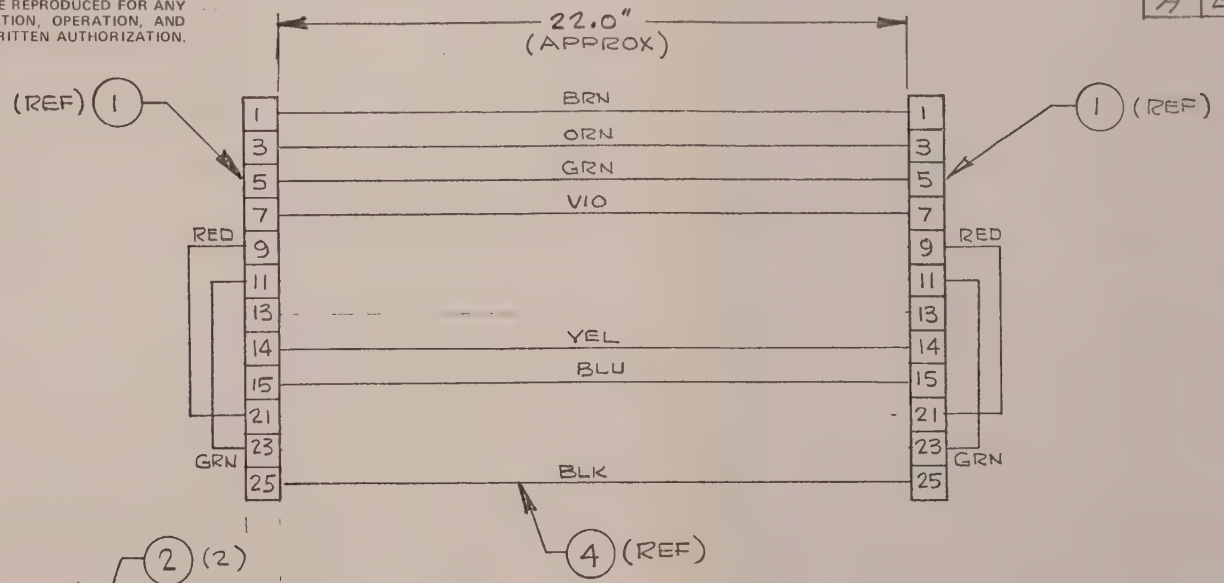
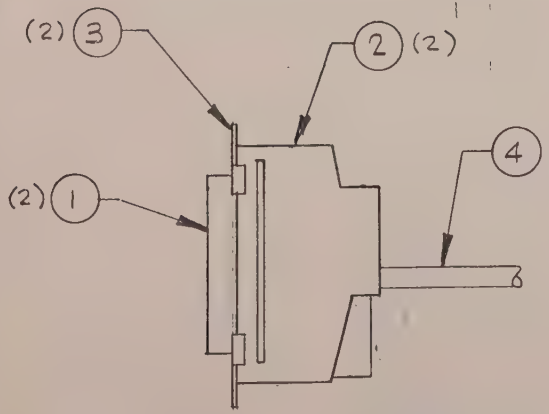
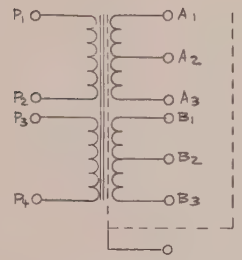
REV	ECN	BY	DATE	APP
A	ECN 773	BA	11-5-73	

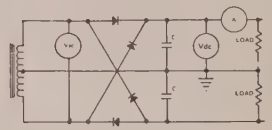




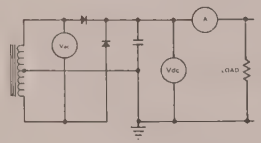
NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN B. REDMAN	DATE 6-5-73	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL —	PROJ ENGR	6/25/73	TITLE: CABLE, INTERCONNECT
	RELEASE APPROV		
FINISH WAVETEK PROCESS —	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1° XX ±.030		
	DO NOT SCALE DWG	MODEL NO. 420	DWG NO. 1207-00-0002 REV A
	SCALE —	CODE IDENT 23338	SHEET 1 OF 1

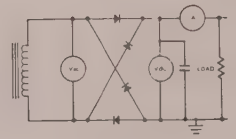




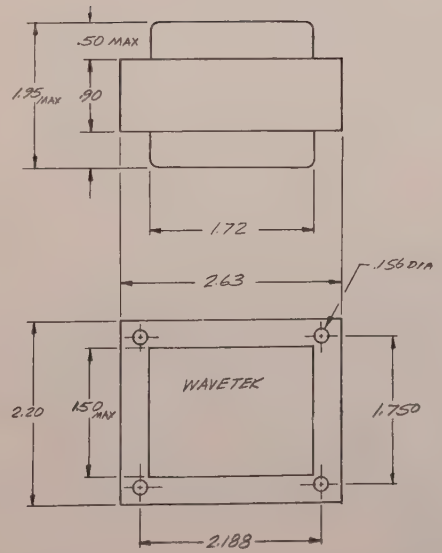
TEST CIRCUIT NO. 1



TEST CIRCUIT NO 2



TEST CIRCUIT NO 3



NOTES 1. STAMP PART NUMBER SAME SIDE AS LEADS.

ELECTRICAL SPECIFICATIONS

PRIMARY WINDING 50 Hz – 400 Hz

	INPUT VOLTAGE	WINDING	CIRCUIT
1	105-125	P_1P_2, P_3P_4	PARALLEL P_1P_3-P_2P_4
2	220-240	P_1P_2, P_3P_4	SERIES P_1-P_2P_3-P_4
3			
4			

SECONDARY OUTPUT CHARACTERISTICS

SECONDARY OUTPUT	A	B	C	D	E
DC RESISTANCE (±20%)					
LOAD CURRENT DC (MAX)	180 mA	300 mA			
AC VOLTAGE (MAX LOAD) (± %)	45.5 CT	22.5 CT			
AVE. DC VOLTAGE (MAX LOAD) (± %)	± 28V	± 13V			
INPUT CURRENT (±10%)	40 mA N/L	200 mA F/L			

TEST CONDITION

	A	B	C	D	E
TEST CIRCUIT	1	1			
DIODES	SCE 1	SCE 1			
CAPACITOR	1000	2000			

INPUT VOLTAGE 115 V

CORE CHARACTERISTICS B 12.22K GAUSS A = .765±30 MIL

OTHER

VOLTAGE REGULATION 10% MAX

HIPOT 1500 Vrms

PRIMARY 1 DCR 44.3 Ω
PRIMARY 2 DCR 48.3 Ω

MANUFACTURING SPECIFICATIONS

WINDING ORDER	1	2	3	4	5	6	7
DENOMINATION	PRIMARY 1	PRIMARY 2	SEC A	SEC B			
TURNS TOTAL (±1%)	32GA 777	32GA 777	28GA 334	26GA 174			
TURNS TAP EXACT	—	—	167	87			
INSULATION	MYLAR 256		MYLAR 256				
START LEAD	BLACK P_1	GRAY P_3	RED A_1	BLUE B_1			
TAP LEAD	—	—	WH/RED A_2	WH/BL B_2			
FINISH LEAD	WH/BLACK P_2	WH/GRAY P_4	RED A_3	BLUE B_3			
TPL	124	124	41	33			
STOP	350 / 327.0	350 / 327.0	60 / 57.0	37 / 35.7.0			
GEAR RATIO R	21	21	28	40			
GEAR RATIO I	76	76	41	66			
GEAR RATIO N	33	33	40	56			

LEAD SIZE 24 GA PLASTIC — LEAD LENGTH 12"

SHIELD NO. 1: BETWEEN 2/3, LEAD JUMP → — SHIELD NO. 2: BETWEEN 4/5, LEAD WH/BLACK

BOBBIN TYPE NY12 SIZE 7/8 SA ALTERATION NONE

LAMINATION: E 187-M19-2E — STACK SQUARE

REV	ECN	DATE	BY
G	RECLAIM by ECN 981	7-16-74	G.

REVISION

REMOVE ALL BURRS AND BREAK SHARP EDGES

MATERIAL

FINISH
WAVETEK PROCESS
DIP VARNISH BC-356
60-40% SOLUTION
BAKE 8HRS @230°F

DRAWN: P Gilbody — DATE: 7-17-74
PROJ ENGR: JAM — 7/16/74
RELEASE APPROV:

TOLERANCE UNLESS OTHERWISE SPECIFIED
.XXX ± .010 ANGLES ±1°
.XX ± .030

DO NOT SCALE DWG

SCALE

WAVETEK SAN DIEGO • CALIFORNIA

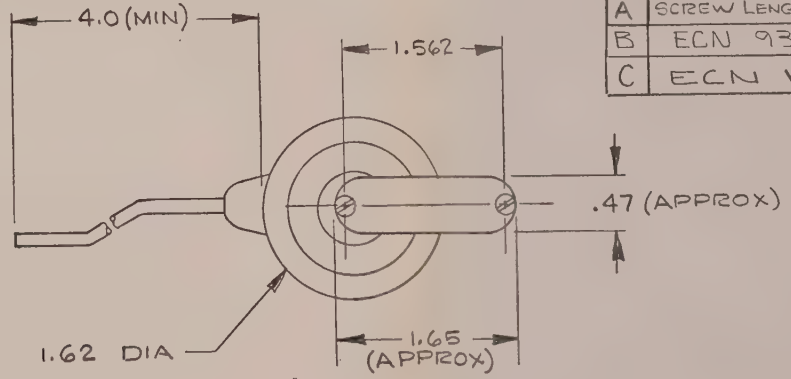
TITLE: TRANSFORMER

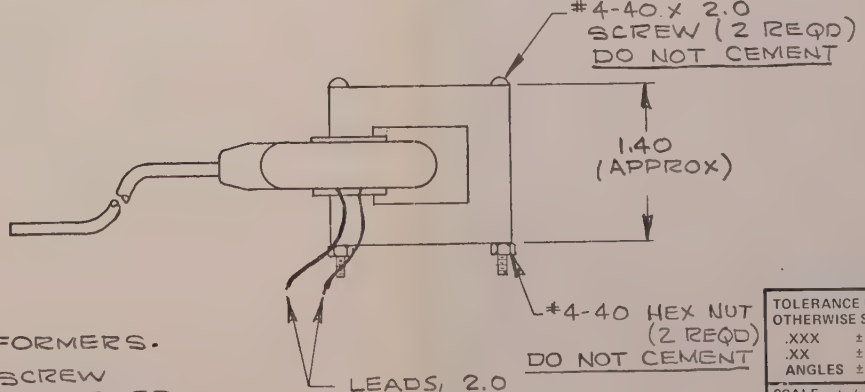
MODEL NO.

DWG NO. 1204-00-0001 — REV G

CODE IDENT 23338 — SHEET 1 OF 1

REVISIONS				
REV	DESCRIPTION		DATE	APPROVED
A	SCREW LENGTH WAS 1¾. ADDED NOTE 4		4-24-73	C.C.
B	ECN 939	BA	6-18-74	
C	ECN 1447	RO	9-19-76	R.T.W.





4. SUPPLY PRIMARY COIL FORMERS.
3. DO NOT CEMENT: - SCREW HARDWARE, MUST BE SUBASSEMBLED.
2. SUGGESTED SOURCE OF SUPPLY PEN-TRAN CORP. BELLEFONTE, PENN. PART NO. EX-2201
1. ELECTRICAL REQUIREMENTS:
   A. 3KV WITH TAP AT 400 VOLTS, NO PRIMARY. (SUGGEST 26 TURNS & 34 VOLTS INPUT).

NOTES:

TOLERANCE UNLESS OTHERWISE SPEC	REV	ECN	BY	DATE	APP
.XXX ± .010 .XX ± .030 ANGLES ± 0°30'	WAVETEK			SAN DIEGO, CALIFORNIA	
SCALE 1/1	BY B. REDMAN	DATE 1-15-73	APP		
MATERIAL — //	TITLE TRANSFORMER (FLY-BACK)				
FINISH — //	MODEL NO. 420	DWG NO. 5600-00-0004	REV C		

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BRUNING 40-520 15821

9000-00-0095

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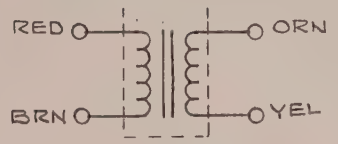
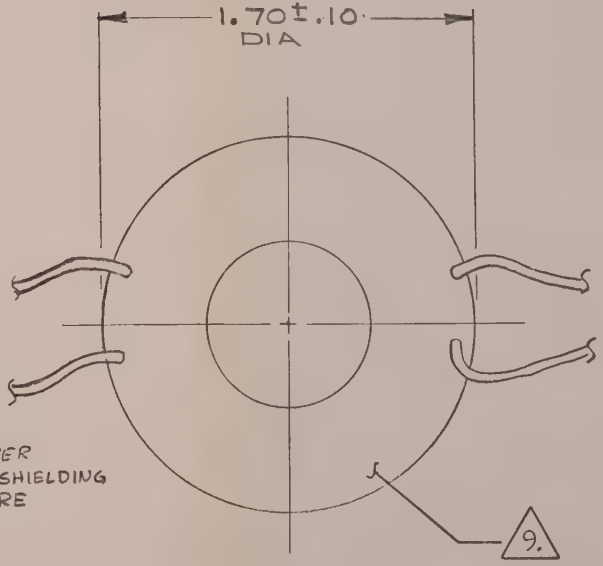
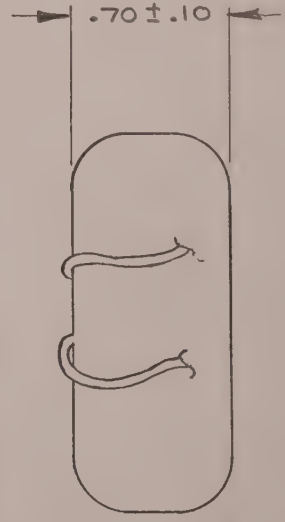
REV	ECN	BY	DATE	APP
A	ECN 1245	RL	7-11-73	







9. WAX EXTERIOR SURFACES OF TRANSFORMER & COVER WITH ALUMINUM FOIL (ALUMINUM FOIL SHIELDING MUST NOT FORM SHORTED TURN). SECURE ALUMINUM FOIL IN PLACE WITH WAX COATING

8. SUGGESTED SOURCE OF SUPPLY MAGNETIC DEVICES P/N 61228
7. EXTERNAL LEADS 8" MIN.
6. CAPACITANCE: 150pf MAX ANY PRIMARY TO ANY SECONDARY.
5. FREQUENCY RESPONSE: 35Hz TO 15KHz ±0.1dB 600Ω OR 900Ω TERMINATION.
4. POWER LEVEL: +20dBm MAX.
3. REACTIVE IMPEDANCE: 30KΩ @ 100Hz MIN.
2. DC RESISTANCE: 40Ω MAX PRIMARY & SECONDARY.
1. TURNS RATIO — 1:1

NOTES:

NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES

MATERIAL

FINISH
WAVETEK PROCESS

DRAWN B. REDMAN DATE 7-11-73

PROJ ENGR Conjecture

RELEASE APPROV

TOLERANCE UNLESS OTHERWISE SPECIFIED
.XXX ±.010 ANGLES ±1
.XX ±.030

DO NOT SCALE DWG

SCALE 2/1

WAVETEK SAN DIEGO • CALIFORNIA

TITLE TRANSFORMER

MODEL NO. 420

DWG NO. 5600-00-0095 REV A

CODE IDENT 23338

SHEET 1 OF 1

A 8000-00-0095

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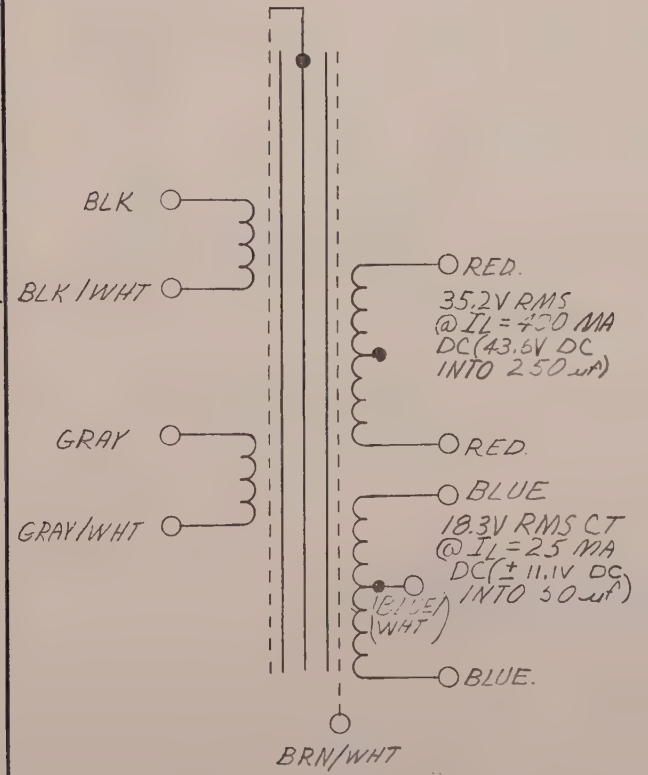
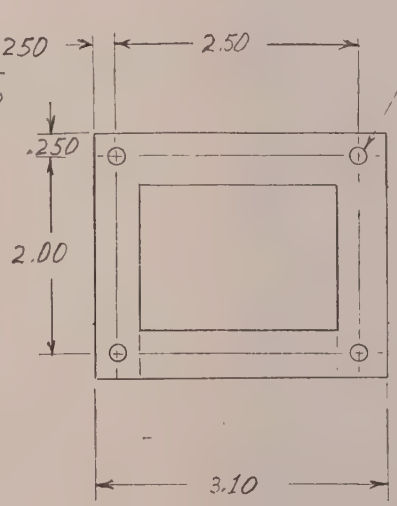
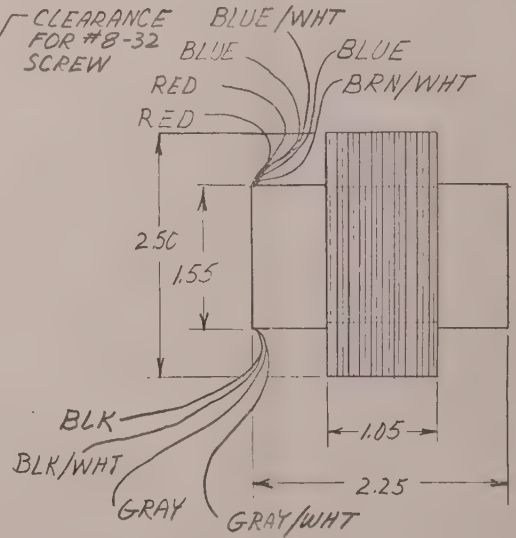
REV	ECN	BY	DATE	APP
A	# 989	B.R.	10/74	

ISOLATION TEST VOLTAGE

1500 RMS BETWEEN PRIMARY POWER (BOTH SIDES) AND HOUSING AND/OR SHIELDS. VOLTAGE TO BE INCREASED WITHIN 10 TO 30 SEC FROM 50 TO 100% HOLD FOR ONE MINUTE AND THEN DIALED BACK DOWN AGAIN TO 50% WITHIN 10 TO 30 SEC. TESTED UNIT MUST BE OPERATIVE AFTER ISOLATION TEST.







6. EXCITING CURRENT 15 MA MAX. @ 115 VAC 60 Hz.
5. SHADING BAND 10 MILL COPPER.
4. SECONDARY SPECS AT 100V AC PARALLEL CONNECTED.
3. V AC REG ≅ 8%
2. ALL LEADS # 24 AWG STRANDED 18" MINIMUN LENGTH.

NOTES: 1. PRIMARY (50-400 HZ) 105-125 VAC (PARALLEL CONN) 200-240 VAC (SERIES CONN) MAGNETIC DEVICES # 61334A

NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN W. ADKINS	DATE 11/5/73	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL	PROJ ENGR	11/18/73	TITLE POWER TRANSFORMER
	RELEASE APPROV		
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1 .XX ±.030		
	DO NOT SCALE DWG	MODEL NO	DWG NO. 5600-00-0008 REV A
	SCALE	CODE IDENT 23338	SHEET 1 OF 1

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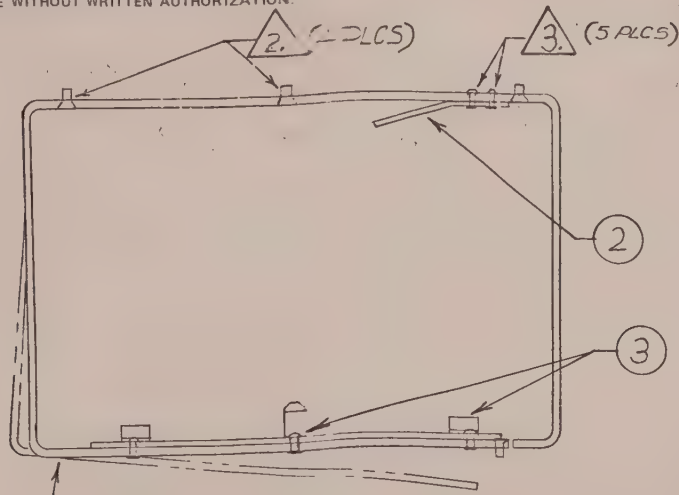
REV	ECN	BY	DATE	APP
A	ADDED NOTE	BA	6-17-74	



3. USE 5EA TUBULAR OVAL HD RIVETS # MS16535-76
2. USE 4 EA. FLAT HD RIVETS # MS20426 AD3-3
1. PAINT WITH BLACK BAKING ENAMEL, COLOR NO. 37038, PER FED STD. 595A; SMOOTH FINISH

NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN W. ADKINS	DATE 11-6-	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL	PROJ ENGR		TITLE ASSEMBLY BEZEL TUBE TRACE
	RELEASE APPROV R. T. Wimer		
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1 .XX ±.030		
	DO NOT SCALE DWG	MODEL NO 4.0	DWG NO 1201-00-0546 REV A
	SCALE	CODE IDENT 23338	SHEET 1 OF 1

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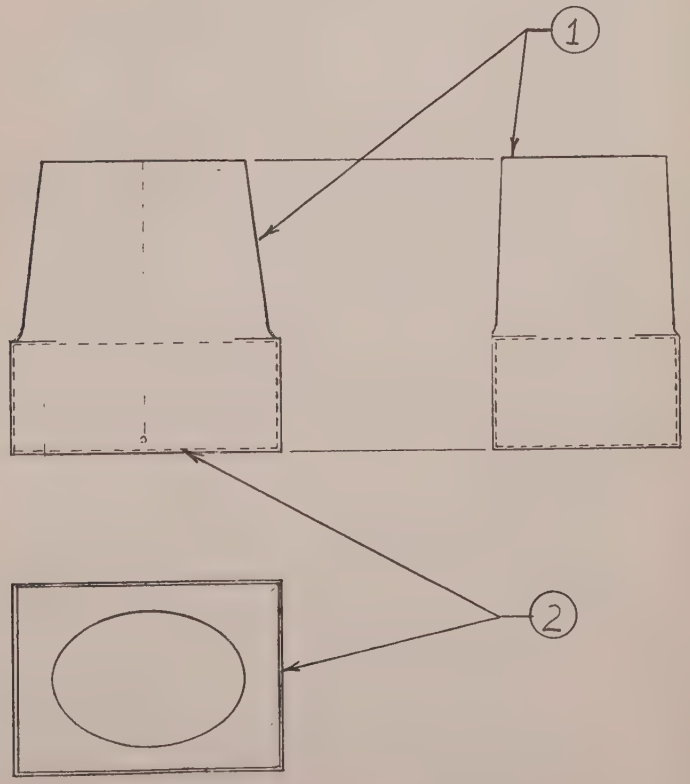
REV	ECN	BY	DATE	APP



NOTE: UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN W ADKINS	DATE 11-2-73	WAVETEK SAN DIEGO • CALIFORNIA
MATERIAL	PROJ ENGR	11/14/73	TITLE ASSEMBLY OSCILLOSCOPE HOOD
	RELEASE APPROV		
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1 .XX ±.030		
	DO NOT SCALE DWG	MODEL NO 420	DWG NO 1201-00-0529 REV
	SCALE HALF	CODE IDENT 23338	SHEET 1 OF 1

ASSY-PACE DESIGNATIONS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY
NONE	CONN	DHC-25P	CINCH	2100-02-0001	1
NONE	CONN SHELL	DB51212-1	CINCH	2100-02-0003	1
NONE	SPRING LATCH ASSY	D110278	CAN	2100-07-0003	2

WAVETEK
PARTS LIST

TITLE
INTL CONN ASSY

ASSEMBLY NO.
1207-00-0001

PAGE: 1

REV

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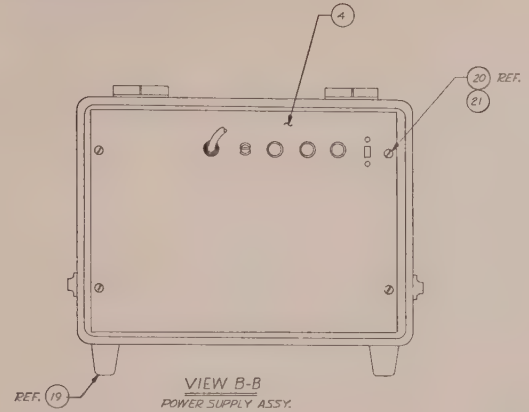
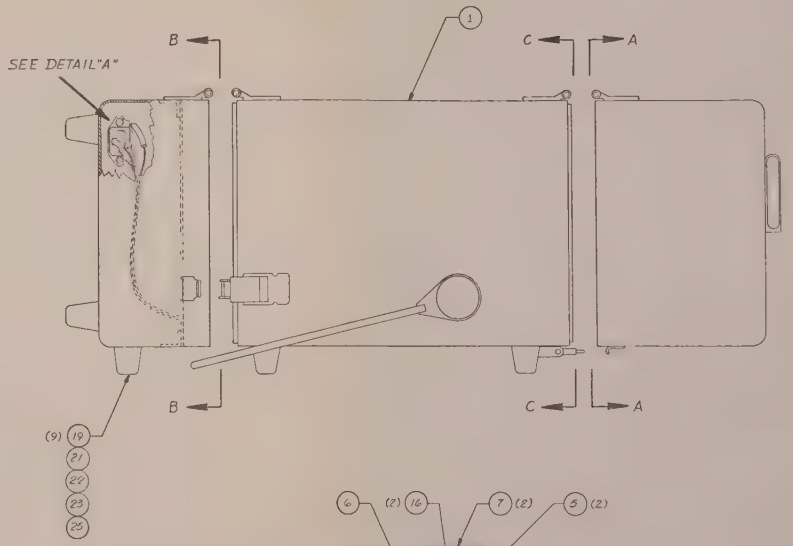
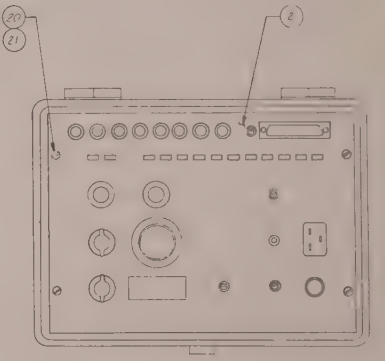
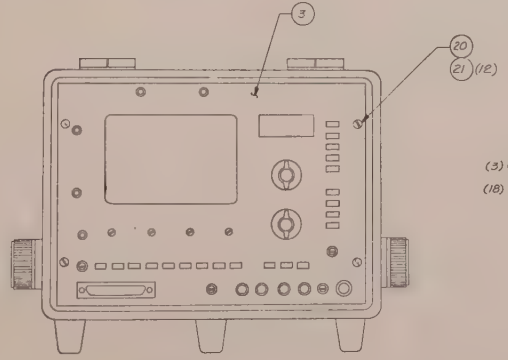


VIEW B-B
POWER SUPPLY ASSY.

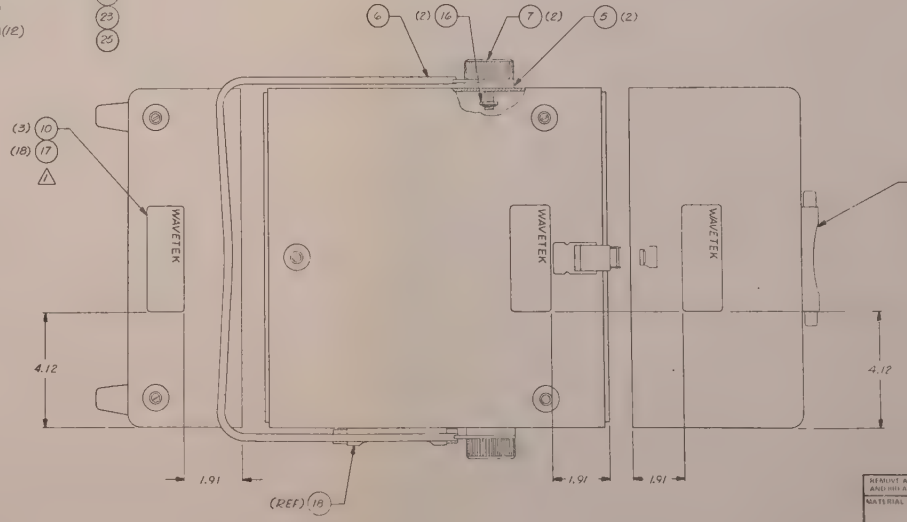




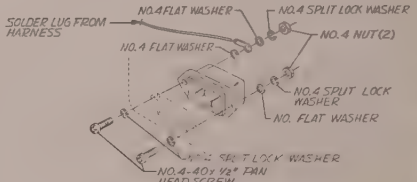
VIEW A-A
TRANSMITTER ASSY.



VIEW C-C
RECIEVER ASSY.



USE 8-32x1/2" PAN HEAD SCREW WITH LOCK WASHER AND STANDARD NUT (TYPICAL BOTH HANDLES)



DETAIL "A"
AC RECEPTACKLE INSTALLATION

⚠ MATCH DRILL .093 (3/32) DIA. THRU I.D. PLATE AND CASE INSTALL POP-RIVET (6 PLACES) TYPICAL 3 PLATES

NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND HOLD AS SHARP EDGES	DRAWN P.L. COOPER	DATE 6-23-76
MATERIAL	APPROVED	
FINISH WAVETEK PROCESS	RELEASE APPROVAL	
	TOLERANCE UNLESS OTHERWISE SPECIFIED	

WAVETEK SAN DIEGO, CALIFORNIA

TITLE ASSEMBLY, CASE, TRANSMISSION LEVEL TEST SET 4244425

MODEL NO. 4244425 DRAWING NO. [illegible]

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PI
NONE	ASSY DRWG,CHASSIS	0102-00-0526	WVTK	0102-00-0526	1
NONE	ASSY DRWG,RECEIVER	0102-00-0527	WVTK	0102-00-0527	1
NONE	ASSY DRWG,XMITTER	0102-00-0528	WVTK	0102-00-0528	1
NONE	ASSY DRWG,PWR SUPPLY	0102-00-0529	WVTK	0102-00-0529	1
9	INTL CONN ASSY	420-421	WVTK	1207-00-0001	1
8	INTCON CABLE ASSY	420-420	WVTK	1207-00-0002	1
NONE	NAMEPLATE	147-334	WVTK	1400-00-3620	3
NONE	RETAINER	420-308	WVTK	1400-00-4283	2
NONE	BASE,PIVOT	420-309	WVTK	1400-00-4293	2
6	RAIL	420-315	WVTK	1400-00-4334	1
11	BAG,CABLE	420-362	WVTK	1400-00-4640	1
1	CASE	420-500	WVTK	1400-00-4702	1
NONE	HANDLE	3150-305-304	PHIL	2800-07-0005	2
NONE	FEET	2097W-475	ROYAL	2800-08-0009	9
NONE	NUT	21FKF-616	SPS	2800-16-0006	2
NONE	CABLE ASSY	2BC-MG-48	POMNA	6001-30-0004	2
NONE	PWR CORD	0-7788-008-GY	PACRD	6001-80-0005	2

WAVETEK
PARTS LIST

TITLE
ASSY,XMISSION TEST

ASSEMBLY NO.
1101-00-0526

REV

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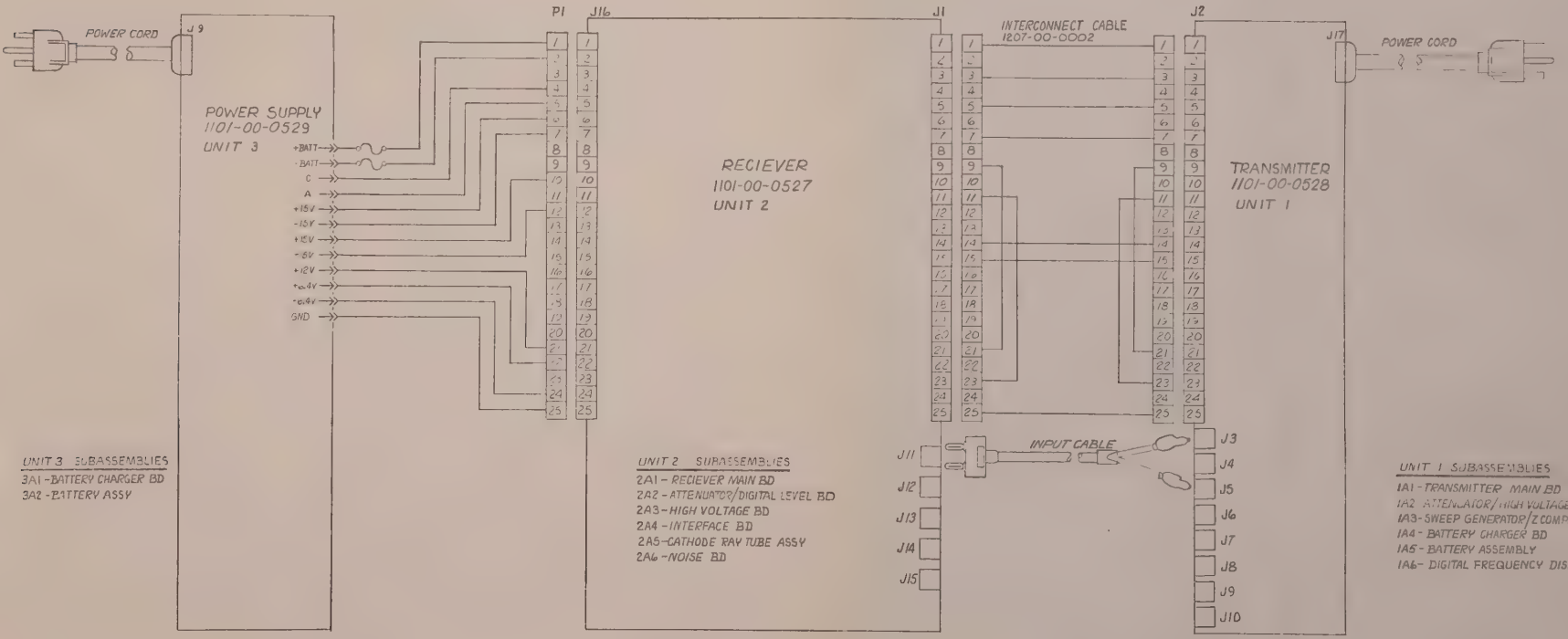

UNIT 3 SUBASSEMBLIES
3A1 - BATTERY CHARGER BD
3A2 - BATTERY ASSY

UNIT 2 SUBASSEMBLIES
2A1 - RECIEVER MAIN BD
2A2 - ATTENUATOR/DIGITAL LEVEL BD
2A3 - HIGH VOLTAGE BD
2A4 - INTERFACE BD
2A5 - CATHODE RAY TUBE ASSY
2A6 - NOISE BD

UNIT 1 SUBASSEMBLIES
1A1 - TRANSMITTER MAIN BD
1A2 ATTENUATOR/HIGH VOLTAGE BD
1A3 - SWEEP GENERATOR/Z COMPARE BD
1A4 - BATTERY CHARGER BD
1A5 - BATTERY ASSEMBLY
1A6 - DIGITAL FREQUENCY DISPLAY BD

NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH WAVETEK GREY
DRAWN RO FIFER
DATE
PROJECTION
APPROVE
TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ±.010 ANGLES ±1 .XX ±.03
DO NOT SCALE DWG
SCALE

WAVETEK SAN DIEGO, CALIFORNIA
TITLE SCHEMATIC INSTRUMENT
MODEL NO 424-425
DWG NO 0004-00-0098
REV
CODE IDENT NO 23338
SHEET 1 OF 1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG, INSTRUMENT XMISSION TEST SET	0002-00-0098	WVTK	0002-00-0098	1
NONE	SCHEMATIC, INSTRUMENT	0004-00-0098	WVTK	0004-00-0098	1
NONE	FINAL CAL PROCEEDURE	0006-00-0098	WVTK	0006-00-0098	1
NONE	QA PROCEEDURE	0007-00-0098	WVTK	0007-00-0098	1
1	BATT CHGR-XMITTR	420-010	WVTK	1100-00-0201	1
2	NOISE AMP	420-015	WVTK	1100-00-0206	1
3	MAIN-RCVR	420-016	WVTK	1100-00-0207	1
4	BATT CHARGER-RCVR	420-021	WVTK	1100-00-0209	1
5	PCA, H.V.	420-019	WVTK	1100-00-0460	1
6	PCA, DIGITAL FREQ	424/425-525	WVTK	1100-00-0525	1
7	PCA, HV-ATTN	424/425-532	WVTK	1100-00-0532	1
8	PCA, MAIN XMITTER	424/425-533	WVTK	1100-00-0533	1
9	PCA, DIGITAL-ATTEN	424/425-534	WVTK	1100-00-0534	1
10	PCA, SWEEP	424/425-536	WVTK	1100-00-0536	1
11	ASSY, XMISSION TEST	424/425-526	WVTK	1101-00-0526	1
12	PCA, RECEIVER	424/425-527	WVTK	1101-00-0527	1
13	ASSY, TRANSMITTER	424/425-528	WVTK	1101-00-0528	1

WAVETEK
PARTS LIST

TITLE
XMISSION TEST SET

ASSEMBLY NO.
1000-00-0098

PAGE: 1

REV

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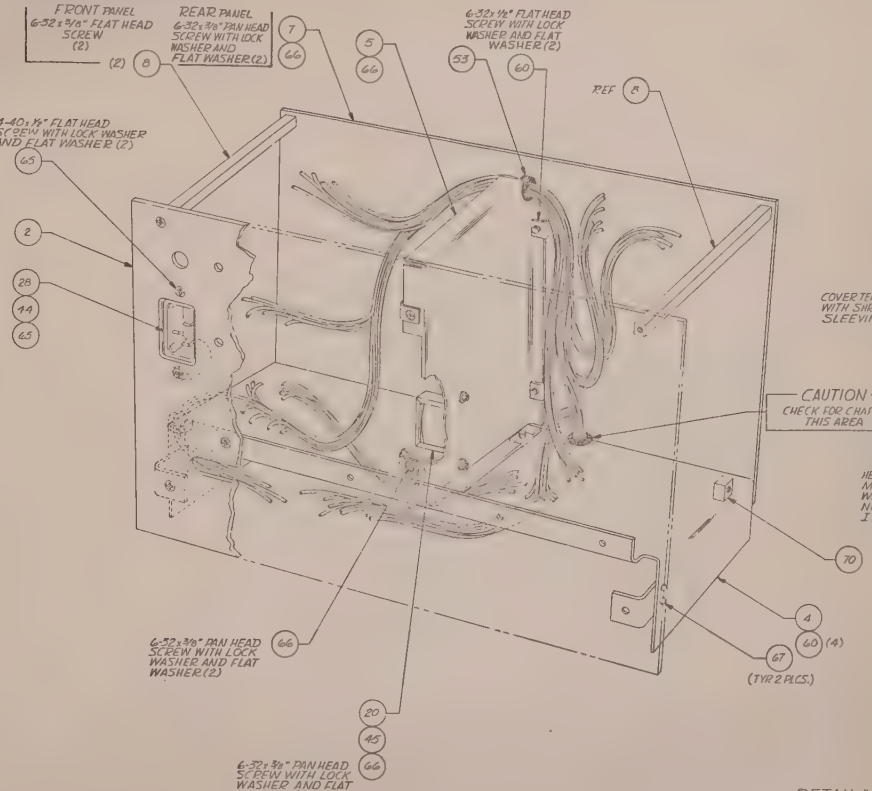
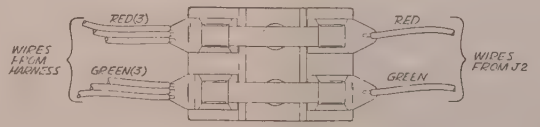
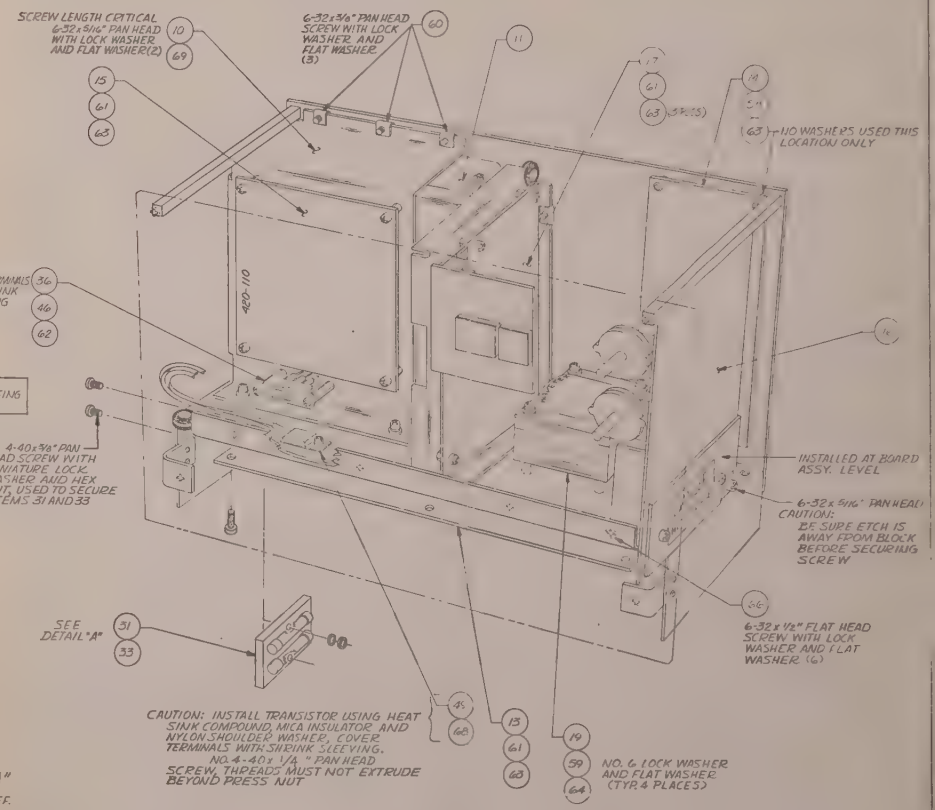

FRONT PANEL
6-32 x 3/8" FLAT HEAD SCREW (2)
REAR PANEL
6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (2)
6-32 x 1/2" FLAT HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (2)
REF
4-40 x 1/8" FLAT HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (2)
CAUTION
CHECK FOR CHAFFING THIS AREA
6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (2)
(TYP 2 PLCS.)
6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (2)

ASSEMBLY SEQUENCE
VIEW "A"
CHASSIS AND WIRING HARNESS ASSY.



DETAIL "A"
FUSE WIRING REF.


SCREW LENGTH CRITICAL
6-32 x 5/16" PAN HEAD WITH LOCK WASHER AND FLAT WASHER (2)
6-32 x 3/8" PAN HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (3)
NO WASHERS USED THIS LOCATION ONLY
COVER TERMINALS WITH SHRINK SLEEVING
4-40 x 3/8" PAN HEAD SCREW WITH MINIATURE LOCK WASHER AND HEX NUT, USED TO SECURE ITEMS 31 AND 33
INSTALLED AT BOARD ASSY. LEVEL
6-32 x 5/16" PAN HEAD
CAUTION: BE SURE ETCH IS AWAY FROM BLOCK BEFORE SECURING SCREW
6-32 x 1/2" FLAT HEAD SCREW WITH LOCK WASHER AND FLAT WASHER (6)
SEE DETAIL "A"
CAUTION: INSTALL TRANSISTOR USING HEAT SINK COMPOUND, MICA INSULATOR AND NYLON SHOULDER WASHER, COVER TERMINALS WITH SHRINK SLEEVING. NO. 4-40 x 1/4" PAN HEAD SCREW. THREADS MUST NOT EXTRUDE BEYOND PRESS NUT
NO. 6 LOCK WASHER AND FLAT WASHER (TYP. 4 PLACES)

ASSEMBLY SEQUENCE
VIEW "B"
P.C. BOARDS AND FRONT PANEL ASSY.
NOTE: SEE VIEW "C" SHT. 2 OF 2 FOR FRONT PANEL COMPONENTS

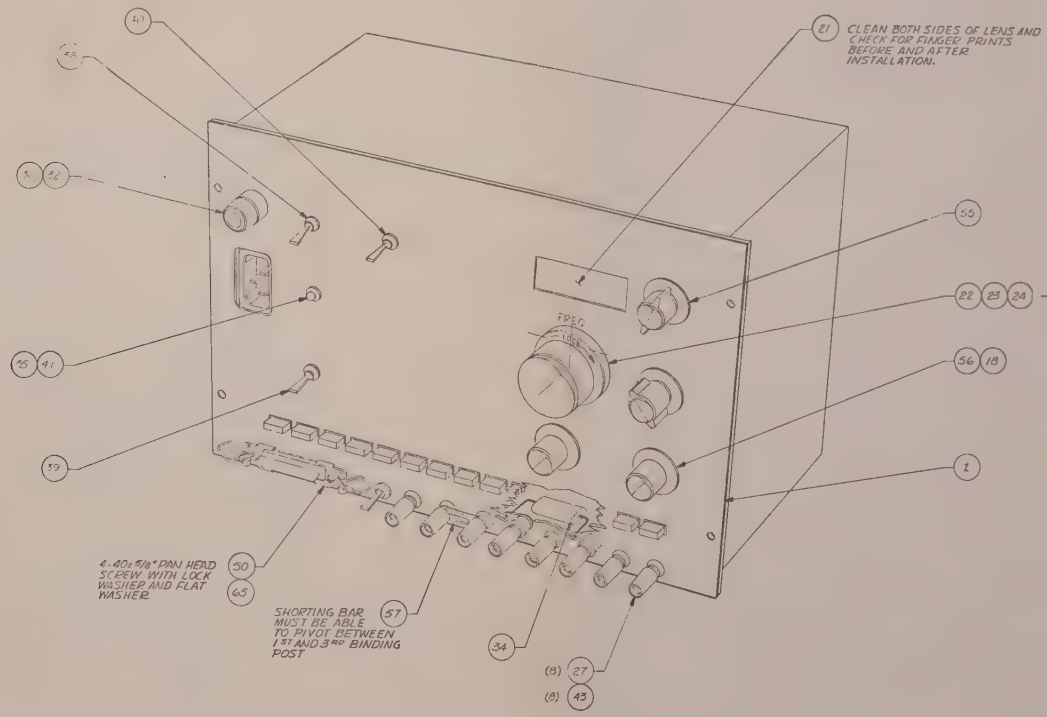
NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND SHARP EDGES
MATERIAL
FINISH
DRAWN BROOPER
DATE 6-3-75
APPROVED
TOLERANCE UNLESS OTHERWISE SPECIFIED
XXX .010 ANGLES
XX .030
DO NOT SCALE DRAWING
NEXT ASSY
USED ON WAVETEK PROCESS

WAVETEK SAN DIEGO, CALIFORNIA

TITLE
ASSEMBLY TRANSMITTER

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND DESIGN RIGHTS BELONGING TO WAVETEK AND MAY NOT BE REPRODUCED FOR ANY REASON EXCEPT CALIBRATION, OPERATION, AND MAINTENANCE WITHOUT WRITTEN AUTHORIZATION



FRONT PANEL INSTALLATION
VIEW "C"

REMOVE ALL BURRS AND BREAK SHARP EDGES	DRAWN D. COOPER	WAVETEK SAN DIEGO, CALIFORNIA	
MATERIAL		TITLE ASSEMBLY TRANSMITTER	
FINISH WAVETEK PROCESS	TOLERANCE UNLESS OTHERWISE SPECIFIED .XXX ± .010 ANGLES ± 1 .XX ± .030		
	DO NOT SCALE DWG.	SIZE A3	DRAWING 1120-P-602 REV
		73338	SHEET 2 OF 2

NOTE UNLESS OTHERWISE SPECIFIED

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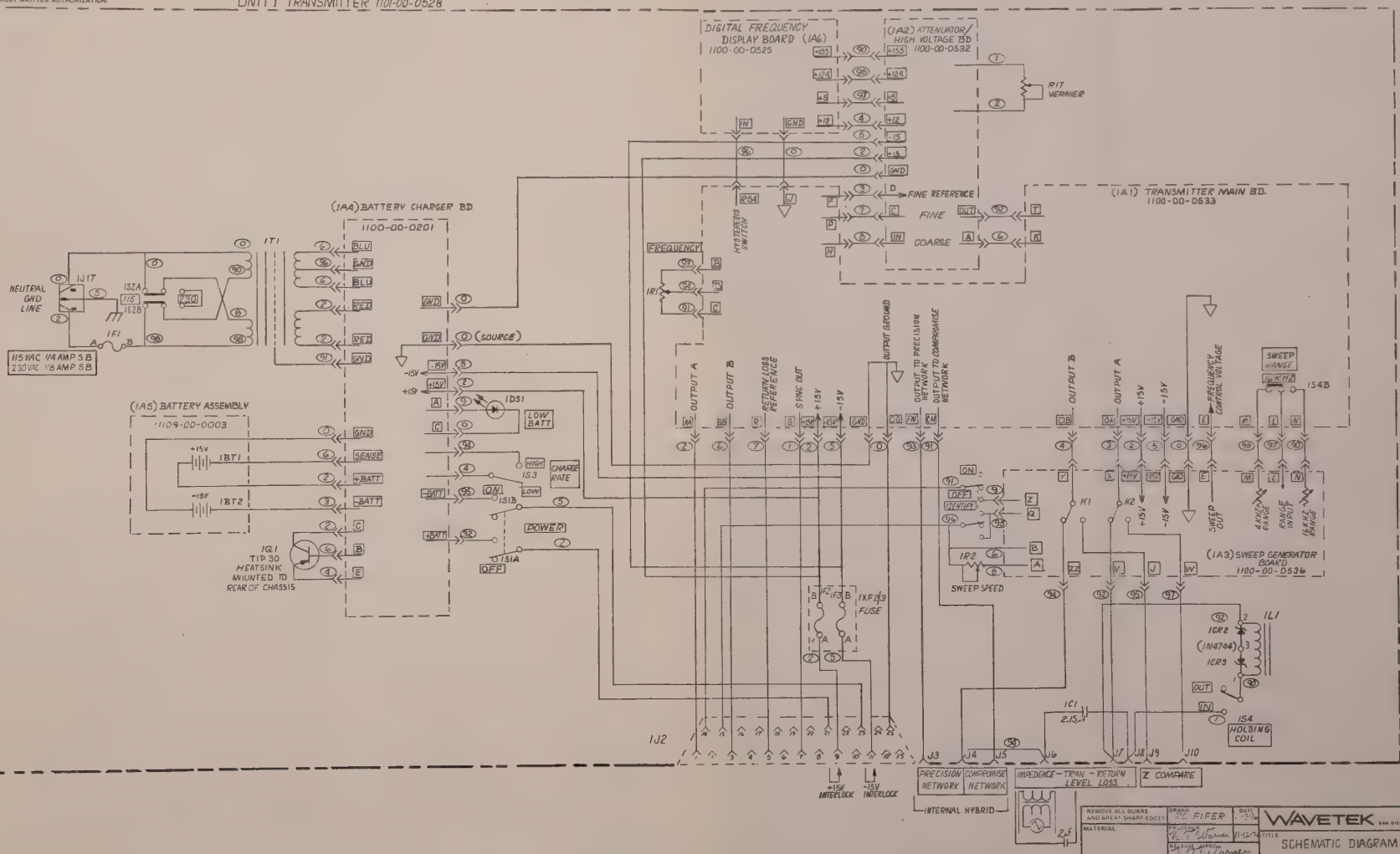
UNIT 1 TRANSMITTER 1101-00-0528



NOTE UNLESS OTHERWISE SPECIFIED

REMOVE ALL BURRS AND BREAK SHARP EDGES | DRAWN FIFER 3-7-74 | WAVETEK SAN DIEGO, CALIFORNIA

MATERIAL | PROCESS | APPROVED

FINISH WAVETEK PROCESS | TOLERANCE UNLESS OTHERWISE SPECIFIED XXX ±.010 ANGLES ±1 XX ±.020 | DO NOT SCALE DWG | SCALE

TITLE: SCHEMATIC DIAGRAM CHASSIS (UNIT 1) TRANSMITTER

MODEL NO 424 | DWG NO 0104-00-0528 | REV | DATA 23338 | SHEET / OF /

0103-00-0528

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	ASSY DRWG,XMITTER	0102-00-0528	WVTK	0102-00-0528	1
NONE	SCHEMATIC,XMITTER	0104-00-0528	WVTK	0104-00-0528	1
19	TRANSFORMER	110-500	WVTK	1204-00-0001	1
20	TRANSFORMER	420-525	WVTK	1204-00-0572	1
NONE	BAR,SPT	420-323	WVTK	1400-00-4383	2
NONE	BRKT	420-346	WVTK	1400-00-4553	2
1	FT.PANEL	424-300	WVTK	1400-00-6380	1
2	SUB PANEL	424-301	WVTK	1400-00-6453	1
10	BRACKET	424-305	WVTK	1400-00-6463	1
7	REAR PANEL	424-304	WVTK	1400-00-6473	1
5	CHASSIS VERT	424-303	WVTK	1400-00-6483	1
4	CHASSIS,HORIZ	424-302	WVTK	1400-00-6493	1
21	FILTER,POLOROID	424-306	WVTK	1400-00-6500	1
34	CAP,SEL,2MFW205K QTY:1:1500-42-0504	420-505-81	WVTK	1509-80-0006	1
NONE	BINDING POST	DF-21-BC	SUPER	2100-01-0001	8
28	RECEPT,POWER	EAC-301	SWCFT	2100-03-0005	1
44	TERM,LOCK LUG	1414-4	SMITH	2100-04-0008	1

WAVETEK
PARTS LIST

TITLE
ASSY,TRANSMITTER

ASSEMBLY NO.
1101-00-0528

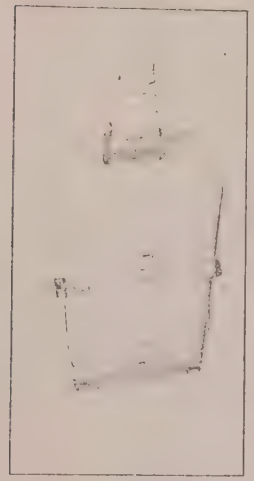
REV
A

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
57	SHORTING LINK	938-L	GENRD	2100-04-0020	1
NONE	SOLDER LUG	1412-6	SMITH	2100-04-0023	8
50	SPRING LATCH ASSY	D110277	CAN	2100-07-0002	1
NONE	KNOB	70-3BL-2G	RAYTH	2400-01-0005	2
NONE	KNOB	70B-3-2G	RAYTH	2400-01-0006	2
23	KNOB	125-1-2G	RAYTH	2400-01-0011	1
24	KNOB LOCK	KL1251G	RAYTH	2400-01-0012	1
32	FUSE,125V.1/4A,SB	313.250	LITFU	2400-05-0008	1
NONE	FUSE,250V,1/2A,SB	313.500	LITFU	2400-05-0010	2
30	FUSE HOLD	031.1653/031.1666	SCHUR	2400-05-0012	1
31	FUSE BLOCK	357002	LITFU	2400-05-0013	1
NONE	STANDOFF,SWAGE .250 H,.250 HEX 6-32,.031 MAT'L	1531A-1/4-11	USECO	2800-02-0001	14
NONE	STANDOFF,SWAGE .625 H,.250 HEX 6-32,.062 MAT'L	1531B-5/8	USECO	2800-02-0004	4
NONE	STANDOFF,SWAGE .125 H,.250 HEX 6-32,.031 MAT'L	B1531A-1/8/11	USECO	2800-02-0019	4

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	STANDOFF,SWAGE .750 H,.250 HEX 6-32,.031 MAT'L	B1531A-3/4-11	USECO	2800-02-0020	2
NONE	SPEEDNUT,TYPE"U"	C880-632-24	TINN	2800-09-0006	9
68	INSERT # 4	74-11-104-13	SUTCO	2800-09-0016	1
NONE	INSERT # 6	74-11-106-13	SUTCO	2800-09-0017	2
70	FAST,CHASSIS	1590-B11	USECO	2800-09-0019	1
NONE	GROMMET,RUBBER	2175	SMITH	2800-10-0003	4
41	HDWE	OCL	OPCOA	2800-12-0003	1
NONE	LOCK NUT	21FA-440	SPS	2800-16-0004	4
NONE	LOCK NUT	21FA-632	SPS	2800-16-0005	10
18	POT,CONT,1M	JAIN056S105UA	AB	4600-01-0500	1
22	POT	8136-R10K-L.25	BECK	4600-11-0300	1
NONE	DIODE	1N4744	MOT	4801-01-4744	2
35	LED	LSM-6L-1	OPCOA	4899-00-0004	1
49	TRANS	TIP-30	TI	4902-00-0300	1
36	SWITCH ASSY SLIDE	46256-LF	SWCFT	5105-00-0002	1
46	SOLDER GUARD	46256-LF-SG	SWCFT	5105-09-0001	1

REFERENCE DESIGNATORS	PART DESCRIPTION	ORIG-MFGR-PART-NO	MFGR	WAVETEK NO.	QTY/PT
NONE	SWITCH,TOGGLE	7101 P3DCQN	C&K	5106-00-0003	2
38	SWITCH,TOGGLE	7201 PDCN	C&K	5106-00-0009	1
40	SWITCH,TOGGLE	7207 PDCN	C&K	5106-00-0011	1

Applications



PORTABLE

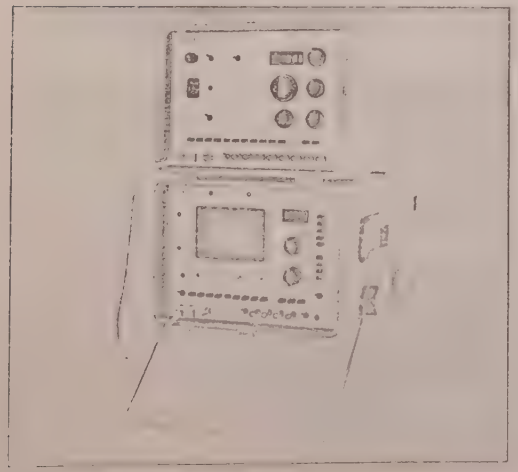
The entire transmitter/receiver combination is packaged in a rugged environmental case weighing less than 30 lb. With the optional rechargeable battery power supply the instrument weighs less than 36 lb and can be transported and used under adverse conditions.

MEASURE AND READ LOSS AND IMPEDANCE DIRECTLY

The high resolution scale plus the wide range of transmit/receive level controls insure that precise measurements can be made over a wide amplitude range. When the measurement mode is selected, the proper display scale is automatically lighted.

IMPEDANCE COMPARISON

In the comparison mode, the impedance of the line under test may be displayed nearly simultaneously with an artificial line. Fifteen load sections are easily viewed. This speeds fault location and line matching. Permanent record is obtained using an optional tracing overlay.



INDEPENDENT TRANSMIT/ RECEIVE OPERATION

The design of the Transmission Level Test Set is such that the receiver and transmitter can be used together or they can be used at separate locations. Measurements include level, return loss, impedance, amplitude response and noise level.

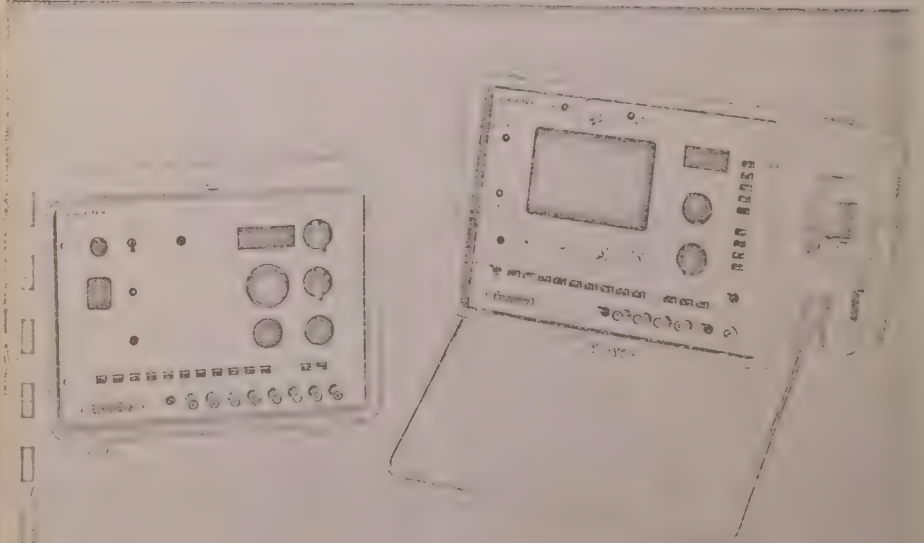
WAVETEK
SAN DIEGO
9045 Balboa Ave., San Diego, Calif. 92123
P.O. Box 651, San Diego, California 92112
Tel: 714/279-2200 TWX: 910-335-2007

WAVETEK Transmission Level Test Set

- MEASURE LEVEL, FREQUENCY RESPONSE, IMPEDANCE, RETURN LOSS AND NOISE
- BATTERY POWERED FOR FIELD AND LAB
- SEPARABLE TRANSMITTER AND RECEIVER
- LOCATE FAULTS

The Wavetek Model 424 425 Transmission Level Test Set is your time saving answer for analyzing voice and program channels, both in the field and in the lab. Its rugged, solid state design provides easy, accurate measurement. Not only does the test set measure level, response, impedance, return loss and noise, but also may be used to locate faults, balance lines and determine build-out network values using its precise internal bridge.

The transmission level test set now provides the telephone engineer and craftsman with an easy means to make a large variety of tests that once took several, difficult-to-use, awkward instruments.



Model 424 Transmitter

Model 424 provides a single frequency or a swept frequency signal in two ranges of 50 to 4000 Hz and 200 to 16,000 Hz with output level adjustable from +10 to −50 dBm. Single frequency setting is displayed on a 5 digit gas discharge readout with a ±2 Hz accuracy. The Model 424 Transmitter is used with the Model 425 Receiver to perform level, return loss and impedance tests.

The gas discharge display lights when the Model 424 Transmitter is turned on giving a positive indication of on/off condition. This display uses a 0.1 second "fast" update time base to give rapid accurate readout for manual sweeping or setting a single frequency. Frequency resolution is ±1 Hz. Frequency is set by one control that can be locked in position. The output signal is attenuated by three controls: 10 dBm per step, 1 dBm per step and a 1 dBm continuous vernier. Attenuation can be set to 0.1 dBm resolution when using the associated Model 425 Receiver or any equivalent external digital level meter.

A rechargeable NiCad battery and an impedance comparison circuit are options. The impedance comparison circuit causes the sweep up and sweep down in frequency to visually trace and display two different impedances from two different circuits. A switch allows one impedance trace to be a dashed line for easy identification. Standard features include a holding coil, dc blocking capacitor and 600Ω/900Ω terminations.

Specifications

Output
Sine wave output with two selectable frequency ranges, 50 Hz to 4 kHz or 200 Hz to 16 kHz. Frequency shown on digital gas discharge display. Output level adjustable from +10 to −50 dBm in 10 and 1 dBm steps and 1 dBm vernier.

Digital Display (frequency)
Five digit format readable in direct sunlight.
Resolution: ±1 Hz.
Accuracy: ±2 Hz.
Time Base: 0.1s.

Operational Modes
Cal: Instrument generates milliwatt source (1 kHz, 0 dBm).
Auto-Sweep: The transmitter generates a signal which is swept over the selected frequency range. Sweep rate is variable with front panel control.
Manual Sweep: Instrument frequency is controlled manually by a single multiturn control.
Impedance Measurement: 100Ω to 9000Ω in 4 ranges.
Return Loss Measurement: To −60 dBm.

Frequency Response
50 Hz to 16 kHz: ±0.2 dB.

Sine Distortion
50 Hz to 16 kHz: Less than 1%

Output Impedance
600Ω or 900Ω balanced.

Internal Hybrid Network
600Ω or 900Ω, resistive, with compromise network removable by front panel ground strap. Terminals available for precision external network.

Holding Coil
Switchable in and out. Approximately 2 henrys with 170Ω.

GENERAL

Dimensions
30.5 cm (12 in.) wide; 22.9 cm (9 in.) high; 15 cm (6 in.) deep.

Weight
4 kg (9 lb) in environmental aluminum case; 5.4 kg (12 lb) with battery and impedance comparison options.

Model 424/425 Dimensions
30.5 cm (12 in.) wide; 22.9 cm (9 in.) high; 58.4 cm (23 in.) deep.

Model 424/425 Weight
Less than 14 kg (30 lb) in environmental aluminum case; 16 kg (36 lb) with battery, noise and impedance comparison options.

Power
115 to 250V; 50 to 400 Hz; less than 30 watts.

Options

B: Battery Power
Provides rechargeable NiCad battery power for transmitter. Transmitter battery life is 6 hours continuous operation with a 14 hour charge.

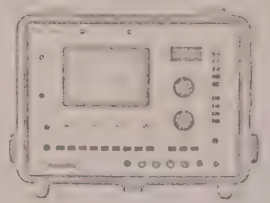
C: Impedance Comparison
Allows two impedance vs frequency plots to be displayed for comparison. One trace is continuous and the other is dotted for easy identification.

ORDER INFORMATION
(FOB San Diego)

Model 424		$1398
Options		
B	Battery Power	$ 150
C	Impedance Comparison	$ 125

Terms ½% 10 days, net 30 days.
Prices apply only to domestic U.S. customers.
Prices and specifications are subject to change

Model 425 Receiver



Model 425 is an audio level receiver which provides a CRT amplitude display of swept levels, return losses and impedances, and a 3 digit, gas discharge display of noise and single frequency level. The Model 425 Receiver is used with the Model 424 Transmitter for return loss and impedance tests and with any sweep frequency transmitter to measure amplitude as a function of frequency. A rechargeable NiCad battery and noise measurement are options. Standard features include bridge 600Ω/900Ω terminations, a dc blocking capacitor and a holding coil.

Specifications

Digital Display (level and noise)
± sign, 3 digit format with a fixed decimal point. Readable in direct sunlight.
Resolution: 0.1 dB.
Time Base: 0.2s.

CRT Display
Correct scale is automatically displayed when measurement mode is selected. Screen is 1-1/4 in. high, 3-3/8 in. wide.
Display Error: ±0.1 dB.

Frequency Ranges
50 to 4000 Hz; 200 to 16,000 Hz.

Frequency Response
50 Hz to 16 kHz: ±0.2 dB.

Receive Level
+33 to −50 dBm. 23 dB CRT display range. Coarse and fine receive level switches calibrated in 10 and 1 dB steps with 50 and 10 dB ranges.

Input Impedance
Bridge/600Ω/900Ω selected by front panel pushbutton.

Calibration
Adjusted by two front panel controls.

Holding Coil
Switchable in and out. Approximately 2 henrys with 170Ω.

GENERAL

Dimensions
30.5 cm (12 in.) wide; 22.9 cm (9 in.) high; 43.4 cm (17 in.) deep.

Weight
10 kg (21 lb) in environmental aluminum case; 10.6 kg (24 lb) with battery and noise options.

Model 424/425 Dimensions
30.5 cm (12 in.) wide; 22.9 cm (9 in.) high; 58.4 cm (23 in.) deep.

Model 424/425 Weight
Less than 14 kg (30 lb) in environmental aluminum case; 16 kg (36 lb) with battery, noise and impedance comparison options.

Power
115 to 250V; 50 to 400 Hz; less than 30 watts.

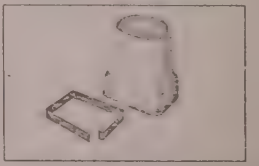
Options

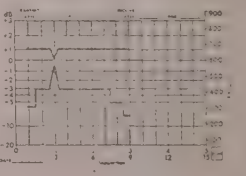
A-1: Noise Measurement
Noise in dBrn: −15 to +88 dBrn.
Noise Filters: C message, 3 kHz flat selectable by front panel switch.
Noise Impedance: Bridging, 600Ω or 900Ω selectable by front panel pushbutton.
Response: Front panel switch allows selection of normal or damped response.
Noise Monitor: Front panel jack plug for convenient monitoring of noise competition.

B: Battery Power
Provides rechargeable NiCad battery power for receiver. Receiver battery life is 2 hours continuous operation with a 14 hour charge.
NOTE: Standby status provided to extend the receiver operating time. "Battery low" lamp indicates battery at low level. Simultaneous charge and operation possible.

Accessories

Accessory mount and accessory CRT hood, 2 pencils with 20 overlays (can be specifically designed for customer level vs frequency characteristics).





ORDER INFORMATION
(FOB San Diego)

Model 425	$1747
Options	
A-1	$ 300
B	$ 150
[illegible]	$ 100

MP MASTER
MA35657